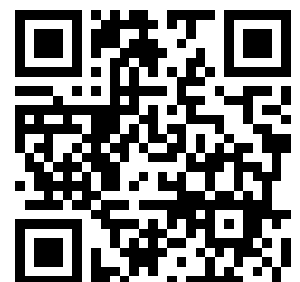


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# *The* **N.E.L.A.** **BULLETIN**

VOL. XII

APRIL, 1925

No. 4

## **The Commercial Department and Public Relations**

*By M. S. Sloan*

## **Economic Aspects of Electric Power**

*By Edwin D. Dreyfus*

## **Power in Pennsylvania**

*By Charles Penrose*

## **Now and Tomorrow with Customer Ownership**

*By A. Emory Wishon*

## **Superpower and the Railways**

*By E. H. Sniffin*

NATIONAL ELECTRIC LIGHT ASSOCIATION



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APRIL, 1925



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29 West 39th Street, New York, N. Y.

# APRIL IN CASUAL RETROSPECT

1875

"Since Sir Humphrey Davy exhibited the electric light for the first time, more than half a century ago\* it is surprising what little practical use we have been able to make of this most brilliant source of illumination."—Daily News. . . . The new Opera House in Paris has a room equipped with 360 Bunsen's cells, arranged in sets of 60 on plate glass tables which can be manipulated to pass a current so that electric lights may illuminate any part of the stage or may be directed on any part of the scenery.

1880

A New York correspondent of the Standard says: "Of the 200 paper carbon lamps tried by Mr. Edison, only two remain at present undestroyed. . . . A professor of Harvard University has sent him 50 specimens of fibres to test for the carbon horseshoes instead of the paper formerly used. . . . Amongst those who have the best opportunity of judging what he has done, or is likely to do, little hope seems to remain of his ultimately attaining success with his incandescent lamps." . . . Wabash, Ind., reports the Telegraphic Journal, is the first city in the world to adopt the electric light for general illumination. . . . On the night of the first of April 4 Brush lamps of 3,000 candle-power each put forth a noonday light for one mile in circumference. . . . The lamps were suspended on a flagpole of the Court House and towered 100 feet over the business section.

1885

Upwards of 600 local electric lighting companies are said to be operating in the United States and Canada. . . . Nocturnal misdeeds in a park of a Connecticut city have diminished fully 90 per cent since the lighting of the park by electricity, according to Police authorities. . . . The cost of lighting the "World's Exposition" at New Orleans is said to be \$1,250 a night. . . . The Electrical World says the New Haven (Conn.) Colony Historical Society has just come into possession of a piece of the cord which was attached to the famous kite which Ben Franklin flew in 1750. . . . It is of linen twist through which passes a fine copper wire.

1890

Electrical Review prophesies that in a few years there will not be a horse car in active service in any city in the United States. . . . It is estimated that anywhere from 20,000 to 50,000 horses now in use will be thrown upon the market. . . . Total capitalization of 102 electric light companies in Massachusetts is \$4,837,085.

1895

The dynamo and lamps used in Wabash, Ind., until 1886 (See 1880 above) were sold to a St. Louis firm for \$30. The original cost was \$18,000. . . . New York theatres blaze forth with a gorgeous display of electric lighting. . . . In letters of fire formed by 32 candle power incandescent lamps Lillian Russell is featured at Abbey's Theatre. . . . At the Standard, William Gillette in "Too Much Johnson." . . . "Puddinhead Wilson" at the Herald Square Theatre affords a brilliant display of lighting. . . . "His Wife's Father" at the Miner's Fifth Avenue proclaims the electric lights. . . . Tony Pastor's, Proctor's, The Empire, Keith's Fourteenth Street, The Casino and the Imperial also use this mode of advertising.

\*In 1802 Davy demonstrated that electric current can heat carbon and strips of metal to incandescence and give light, and in 1809 he showed that two carbon pencils which were first allowed to touch and then pulled apart would produce a brilliant flame.





*Courtesy Peter Brugiere, 256 Sutter St., San Francisco.*

### **In the Yosemite Valley, California**



# The N.E.L.A. BULLETIN

Volume XII

APRIL, 1925

Number 4

## The Commercial Department and Public Relations

By M. S. SLOAN

*President Brooklyn Edison Company and Chairman Public Relations National Section, N.E.L.A.*

*An address before the Customers' Relation Committee, Commercial National Section, New York, N. Y., March 18, 1925*

THE commercial department of any electrical utility comes into more direct and immediate contact with a larger number of customers than any other branch of the business establishment. What it does, and the way it does it, must, therefore, have an important bearing on the attitude of the public toward the utility.

Again, the success or failure of the work of the commercial department depends very largely on the existence of all that is embraced and implied in the expression, "Good public relations." You are, therefore, vitally interested in this subject, both as utility people and as workers seeking personal success and success for the companies you represent.

Our companies exist to sell something to the public. We don't exist to sell irons and percolators and washing machines. That is merely an incident in our business. I sometimes think it might be better if no utility company dealt in merchandise of this character, for having to handle and sell appliances is very likely to give a wrong slant to our vision—very likely to divert our attention from the business itself. We exist to sell electrical service—to make electricity and deliver it to the point of use by the customer. Almost every utility has the exclusive right of selling service in its territory, so we have got to sell it to the satisfaction of the public or take the consequences.

### **We Must Satisfy the Public**

We have got to satisfy the public—more than that, we have got to please the public if we are to consider that we are truly succeeding in our business. We have got to conform our policies and practices to the needs and the desires of the public, and do it courteously and *willingly*—not because we are forced to do it. No business which is operated with an eye

to the future can afford to have policies and practices which leave a bad impression. No public utility which is intelligently operated—and in our business that always means operated with an eye to the future since we have to plan five, ten, fifteen years ahead—*dare* have such policies and practices.

All this is a direct concern of the commercial department. If you have a satisfied public, the job of selling more service presents only the ordinary problems. If the public is not satisfied with the utility I don't need to tell you how the difficulties of your jobs are multiplied. The commercial department, therefore, is quite as much concerned with the establishment and maintenance of good public relations as the executive and the Board of Directors.

### **A Condition We All Desire**

This condition we all desire—good public relations—what is it? A public utility has relations with its employees. It has relations with its customers. It has relations with prospective customers. It has relations with its security holders. It has relations with public officials, municipal and State, and it has relations with newspapers which reach and are read by the general public. All these groups I have mentioned are part of the public. Taken together, they make up the public. Out of their varied dealings with the utility company they get an impression, good or bad. The sum of their impressions, the consensus of their opinions, mixed together and shaken down, is the impression the public holds regarding that particular utility. If it is good, the company can be said to have good public relations. If it is bad, the company needs to watch its step and make some drastic changes in its methods and policies, perhaps even its personnel.



There is a further point I desire to make right here. The individual or group having a bad impression of one utility extends that impression or opinion to all utilities. That may not be accurate or just, but it is natural enough. For that reason it becomes the duty of every public utility to work for good public relations, for its own benefit and for the benefit of all others in the industry. It's the old story of the chain, which is no stronger than its weakest link.

I read somewhere the other day the tersest and soundest definition of good public relations I have ever encountered. It was this: "Giving the public a square deal, and being sure the public knows it is getting a square deal." There you have the whole thing summed up in eighteen words.

There are mighty few public utilities today which are not striving in every way they know how to give the public a square deal. In the first place, that is good business. In the second place, it is required by the law, which lays down certain basic requirements about standards of service and rates, and provides for supervision of the companies to see that they comply. In the third place, it is our obligation as public service corporations, and I am proud to say that our industry is ever mindful of our obligations—not the letter of the law alone, but also the spirit of it.

On the second phase of the matter I regret to say that the industry is not so alert. A good many companies seem to feel that if the public is getting a square deal it should recognize this and be correspondingly appreciative. The plain fact is that people in a mass don't operate that way. They don't hand engrossed resolutions of thanks to us for uniform good service. They say furnishing that kind of service is no more than what we ought to do. They take it for granted, but if we fall down once we hear about it.

It becomes necessary, then, to tell them what we are doing, and to emphasize the significance of it. We have to toot our horn to attract attention to our merits. We have to make certain that the public knows it is getting a square deal, and the only way we can be certain it knows this is to tell the fact, over and over—to hammer it home in every possible way until we know the fact is lodged in the public mind.

#### Newspapers

We have the facilities for this. The news columns of the papers are open to us for news items about our companies. We can tell our story in that way, so far as it is news—and the experience of my own company has been that the papers are glad to learn about our operations, the improvements and extensions we are making, those we plan to make and the doings of our company people.

Then we have available the advertising columns of the newspapers. I believe there is no more valuable means of contact between a utility company and

the public than paid newspaper advertising. I don't mean advertising of pots and pans. I believe in the past far too much stress has been put on this, so that the only idea of advertising which some companies have is the advertising of appliances. For this you gentlemen of the commercial department are partly responsible. I know that if a company does appliance selling it is expected that the commercial department shall move the goods and from year to year better its record of appliance sales. And to move the goods and better the record you spend money for appliance advertising, and seek larger appropriations for it.

Yet, as I said before, selling appliances is not our business—it is only an offshoot of our business. We sell service, and we've got to sell satisfaction with it. How are we to get across the idea we're selling good service, and striving to make it satisfactory, if we tell the public only about irons and percolators in our advertising, and don't tell about the company and its service?

What I mean by productive and valuable utility advertising is quite another brand. It is what the advertising people call institutional or good-will advertising. It tells about the company—its investment, its equipment, its personnel and their qualifications, its taxes, its plans for service extensions, its problems of management and rate-making, its policies and how they affect the public and the growth of the community. Such advertising gets right down to cases in the relationship between the utility and the public. The utility has got to be on the level if it undertakes such advertising. It can't say a thing because it sounds good. It doesn't dare say anything it isn't prepared to live up to. But if it is giving the public a square deal—as we are all trying to do—there's no more certain way of letting the public know it than by such advertising. Our company here knows the value of such advertising, because we've proved it. So have a good many other companies in many sections of the country. Yet the only idea the people served by a good many other electrical companies get about those companies from their advertising in the newspapers is that they are rivals of the local department stores in peddling appliances.

#### Sell Our Companies

We have to sell our companies as public service institutions to the public. We've got to talk up our companies and our service all the time. We can do it, as I've pointed out, by printers' ink. We can do it by word of mouth—at meetings of business men's associations, civic clubs, neighborhood organizations, church clubs—any place where people gather together. We can get in that way a personal contact with these people which isn't a business contact across a counter. I've tried, it and I know it has done me a lot of good in getting the other fellow's point of view, and I believe it has done them a lot

of good in helping them to get the utility's point of view.

In addition to telling the story of our own companies, there's another story to tell—the story of the industry. Our electrical industry is making giant strides, and its record is something for every one of us to be proud of. It's a record of splendid development of pioneer work consolidated into marvelous achievement for the benefit of the people of this country. Nobody in the industry has told enough about it from that angle, and as a result the country doesn't think of us as an industry unless demagogues and the professional politicians talk about the electrical trust. We know there's no such animal, but we really haven't a right to expect that the general public shall know there isn't, for we haven't made the people know the facts. People write and talk about superpower and giant power as if some great octopus was going to choke America in its tentacles. That's piffle, but it's the fault of the industry that such an idea should be so widespread and there should be so much agitation for government ownership and operation of public utilities to save the people from the octopus.

There was a meeting at Chicago recently attended by the members of the Public Relations Section of the N. E. L. A., representatives of the Public Policy Committee and geographic section officials and directors of the various State Committees on Public Utility Information. That meeting for two days discussed this matter of getting information about utilities to the public—of making sure, in other words, that the public knew it was getting a square deal. A program was adopted, and the cooperation of all companies was requested in carrying it out. That program embraced the various means of contact with the public which I have discussed. It includes the sending of information to all stockholders and to all customers. It includes speeches by the biggest men in the industry in key cities of the country with attendant publicity in newspapers and by radio if that can be arranged. It includes advertising of the good-will type, copy for which will be made available to the companies from N. E. L. A. headquarters.

#### A Fine Job

The idea behind that meeting and this program of intensified public relations activities is simply this: That the electrical industry is doing a fine job, but too many people don't know it's a fine job. For the good of the industry, and the companies in it, and the public itself, it's high time the public should know the facts. So this endeavor to furnish the facts, and keep on furnishing them, and hammering them home by every available means, has begun and will be carried on.

We all know what it means to us to have the people in our territory with us instead of against us—to have approval instead of antagonism. We can

have approval—first, by deserving it, then by proving that we deserve it. The two things go together, and as matters stand today I'm not prepared to contend that the first is any more important to the utilities and the public than the second.

I don't expect to live long enough to see the time when there won't be somebody expressing dissatisfaction with the best utility company on earth. Nevertheless, it is perfectly possible for a public utility to shape its policies and its practices so that it may have and hold the good opinion of a very large majority of its public. The executives and the Board of Directors can't do it all. The commercial department can't do it all. No one division of the organization can do it all; but working together, all of them, they can do the job of giving the public a square deal, and seeing to it that the public knows it's getting a square deal.

Such a relationship between public and utility is of vital importance to you men in direct contact with the public—you who have to go out and sell service. As chairman of the Public Relations Section of the N. E. L. A. I bespeak your cooperation in the details of our program of public relations activities and in whatever local activities you find are necessary to supplement it to make the idea effective. I bespeak your keen and continued interest in this subject. We're all together in this—it's a job for big companies and smaller ones alike, each in its own field. No company has a situation so good it can't be improved, and no company has a situation so bad that intelligent effort along well-defined and proved lines won't benefit it.

It's up to us to decide whether we want to do business with waste and friction due to misunderstanding and antagonism or whether we want to have the understanding and friendly cooperation of our public. We'll get what we earn.

### Trot Out Your Curios; You Can't Beat This One

**A**N old timer living near Concordia, Kans., has been a resident of Cloud County for almost half a century, but has never seen an electric light lighted, reports the *Belleville Telescope*.

Although the old settler visits either Concordia or Jamestown weekly, his practice has always been to get home before sunset.

The gentleman in question had best keep his whereabouts unknown, suggests the Information Bureau of Kansas Public Service Companies at Topeka. Otherwise the Smithsonian Institute may wish to add another Kansas curio to its collection. A man who has never seen an electric light in action would be more of a rarity than an original photograph of Pegasus, the flying broncho.



# Economic Aspects of Electric Power

With Particular Reference to Central Station Development

By EDWIN D. DREYFUS

Engineer, Pittsburgh, Pa.

A paper read before "Pittsburgh Economic Club," December 10th, 1924.

AT the beginning, man obtained his livelihood from the forest, fields, and streams, but as time went on tribes and other economic units were formed, and as a consequence cultivation of the soil and production of materials and goods for man's sustenance and protection became necessary. Beasts of burden were early seized upon to reduce the work of man. As progress was made the energy in waterfalls and air currents was employed in a crude manner here and there to substitute for man or animal power. But the extent of all this was relatively insignificant up to the nineteenth century until after the steam engine, which was invented in the previous period. With the advent of this new type of mechanical power, an industrial revolution followed whereby not only a greater freedom for the individual was gained, but wealth, in material things and other advantages, in a measure was given a wider distribution.

In this paper we are concerned primarily with the developments in this country which have led up to our present progress with the further purpose of pointing out in so far as it is possible the additional gains which may be expected and the influences which will accelerate their realization.

## Luxuries Yesterday, Necessities Today

Things that were luxuries but a few years past have become necessities today. It is not because people have necessarily demanded this change, but the introduction of greater power application in our industries and the consequent large production per individual gainfully employed has brought the benefits easily within reach of the average man.

It has been possible through the application of power in industry to increase wages without an attendant increase in the cost of manufactured commodities. That we in this country have and are making great strides in this direction is evident when one notes in the "Lloyd George Coal and Power Report" that "in the United States the workman is furnished on the average with rather more than twice the power with which the British workman is furnished. In connection with this latter figure it was also shown that the average worker in New York receives two and one-fourth times as much real wage, that is wages expressed in terms of purchasing power, as the London worker.\*" And

again, making use of the studies of Professor Tausig of Harvard, we learn that Japanese weavers producing one-fourth the yarn per worker, receive only one-fifth to one-sixth the wages of American weavers and that the final weaving cost per yard is nearly 40 per cent greater in Japan. Numerous other instances might be cited to show that the average American worker has a very considerable advantage over workers in other countries.

## Power in the United States

Figures of electrical consumption per capita do not of themselves indicate the extent to which power, in the general sense, has been employed to improve the living and working conditions of the men and women of a nation. One must have judicious regard for the other factors when viewing these data which show such countries as Norway, Switzerland and Canada to be ahead of the United States in this respect. It is because these countries have harnessed to such a great extent their available water power and distributed it electrically as to make electric power the larger proportion of their total power that this relation exists. The translation of all the power now used in the United States into electric power, which the central stations will stimulate, will show this country to be far in the lead of all other countries.

The real meaning of this large proportion of developed power now in use is that practically the entire population today enjoys a position tantamount to the titled landlords of old in that these inanimate forces provide the work formerly done by the human hand to such extent as to be equivalent to each man, woman, and child in this country possessing thirty servants or one hundred and twenty servants to a family. As a result there is less menial work placed upon man and he is required to work fewer hours in gainful occupations, leaving more time for recreation and the pursuit of his individual happiness.

Electric power, that is the energy immediately transformed into electricity and distributed and utilized as such, is not alone responsible for these stupendous strides, but it is however, constantly becoming a factor of increasing importance.

## Tabulation of Prime Motive Forces in U. S.

The mechanical power or the prime motive forces now employed in the United States today have been grouped by Mr. F. R. Low† as follows:

\* "Politics and Power," by Guy E. Tripp, LL.D., page 13.

† Editor of "Power" and past president of A. S. M. E.

	<i>Installed Capacity in Hp.</i>
Central stations and industrial .....	45,000,000
Electric railways (January 1, 1923) .....	4,119,000
Mining (January, 1920) .....	5,147,000
Stationary non-industrial .....	4,000,000
Steam Railroads .....	130,000,000
Navigation .....	5,000,000
Agriculture and Traction .....	200,000,000
Automotive .....	300,000,000
<b>Total .....</b>	<b>693,266,000</b>

The remarkable growth of central stations was greatly influenced by the activities of the associations formed within the industry. Soon after the central stations became firmly entrenched as a part of the activity of the locality in which they served, leaders of the industry banded together to exchange information and ideas and to formulate ways and means for improving operation. It was this fortunate working of the industry at large that so rapidly expanded the scope of the business. The experiences obtained in one section of the country were immediately made available for the companies operating elsewhere. There has also been a close community of interest between the electrical machinery manufacturer and the Utility Corporation. The close contact maintained by the two has proven most helpful in developing equipment that enables the service company to profitably expand its facilities and serve a greater number of consumers.

#### The Part That Private Initiative Plays

It must be borne in mind that all the advantages which have come to the American people as set out in the beginning of this paper have come about through private initiative and at large sacrifices, and not through legislative compulsion. All of which goes to prove that both utility and industrial enterprises thrive more vigorously under strictly democratic rule. At no time have the earnings been excessive in proportion to the investments made and neither have the rates charged for the service been unreasonable when judged by the same measures as obtained in the usual course of trade and business.

In no industry has the improvement in the economical utilization of our natural resources been so marked as in the central station operation. Through these improvements there have been upwards of 30,000,000 tons of coal saved during the past four years with prospects of a progressive ratio of increase during the next few years when the large stations recently completed have been in service long enough to have fully reflected their efficiencies in the consumption of coal. The record in the large central stations of two decades ago was four pounds per kw. hr. and at present the attainment in the best central station installations is the production of a kilowatt hour with only one and one-half pounds of coal or better. This represents a requirement of only three-eighths as much

fuel for the same work. It is plain that this improved economy will have a salutary effect in prolonging the life of our best grades of fuel. We used in this country 643,000,000 tons of coal during 1923.

#### Coal Consumption

The consumption of this coal was divided roughly in accordance with the following main groups:

#### Approximate Distribution of Coal Consumption in United States, 1923

	<i>Tons</i>	<i>Percent of Total</i>
Domestic .....	110,000,000	17
Industrial .....	193,000,000	30
Railroads .....	160,000,000	25
Public Utilities .....	39,000,000	6
Exports .....	26,000,000	4
Coke, Gas and Miscellaneous .....	115,000,000	18
<b>Total .....</b>	<b>643,000,000</b>	<b>100</b>

It has already been shown that the activity of the central station has been rapidly gaining on the older established industries as the producer of the required power for manufacturing and transportation. A theoretically possible realignment of coal consumption may be given as follows:

	<i>Tons</i>	<i>Percent of Total</i>
Domestic .....	110,000,000	22
Industrial .....	43,000,000	9
Railroads .....	10,000,000	2
Public Utilities .....	189,000,000	38
Exports .....	26,000,000	5
Coke, Gas and Miscellaneous .....	115,000,000	24
<b>Total .....</b>	<b>493,000,000</b>	<b>100</b>
<b>Saving .....</b>	<b>150,000,000</b>	

This substantial change over from the railroad and industrial groups to central station supply may not take place as fully as indicated and it will probably consume a great many years. Nevertheless the signs are unmistakable and the central station will continually provide a greater part of these requirements.

#### Coal Resources

The following is an estimate by the Geological Survey of the total coal resources of the United States within 3,000 feet of the surface.

	<i>Tons</i>
Anthracite and semi-anthracite .....	22,053,000,000
Semi-bituminous .....	49,863,000,000
Bituminous .....	1,442,917,000,000
Sub-bituminous .....	987,514,000,000
Lignite .....	1,051,290,000,000

For comparison with these figures, it should be noted that the total coal mined from 1807 to 1923 is as follows:

	<i>Tons</i>
Anthracite .....	6,435,000,000
Bituminous .....	9,210,000,000
<b>Total .....</b>	<b>15,645,000,000</b>

It is estimated that there are about five hundred billion tons of coal commercially available in the United States. Allowing that the better grades of



fuel represent about 50 per cent of the total, then at present rates of consumption this supply will last about 500 years, whereas, through further central station development, the life of this part of our resources may be prolonged one hundred or more years.

#### Central Stations to Absorb Most of Power Load

There are many factors that will no doubt bear upon the developments in the above regard but it is safe to predict that the central station will absorb in a progressive ratio more of the power load created by the railroads and the industrials. There are still to be found different schools of opinion among engineers as to purchasing power versus installing independent generating plants, but the preponderance of evidence definitely points to an overwhelming majority in favor of concentrating power production at some central point, it being understood, of course, that economic conditions justify the course. Much is to be gained by such procedure other than the saving in fuel alone. Through diversity in use, the facilities established for the generation and distribution of the power may be utilized to a higher degree and the investment cost for the combined loads thereby materially decreased and consequently credit conserved for other purposes. The adoption of standards in design of equipment for railway electrification which is now being fostered by the different interests, who are advocating such development, will further enlarge the opportunity of the central station for supplying power.

#### Hydro-Electric Development

Hydro-electric development, with its possibilities of saving, will, in due course, assume a more prominent part in the power situation than has been true in the immediate past for two chief reasons:

- (1) Reduction of distance from the Power Market.
- (2) Through coordination of operation, a more economical development in existing water power sites is possible.

The United States Geological Survey has also given us the following information on our water power resources.

*Developed and Potential Water Power Resources of United States, 1924*

	<i>Developed Water Power</i>		<i>Hp. Avail-able 90% of time</i>	<i>Hp. Avail-able 50% of time</i>
	<i>No. of Plants</i>	<i>Capacity in Hp.</i>		
United States ....	3,211	9,086,958	34,818,000	55,030,000
New England....	1,228	1,387,364	998,000	1,978,000
Middle Atlantic..	607	1,731,881	4,317,000	5,688,000
East North Cntrl.	342	829,854	737,000	1,391,000
West North Cntrl.	183	459,736	871,000	1,844,000
South Atlantic...	259	1,295,978	2,476,000	4,464,000
East South Cntrl.	50	345,584	1,011,000	2,004,000
West South Cntrl.	27	16,727	434,000	888,000
Mountain .....	226	880,783	1,073,600	15,513,000
Pacific .....	289	2,139,051	13,238,000	21,260,000

\* See editorial by the author entitled "Regional Public Utilities" in "The Electric Journal," July, 1923.

#### Public Utilities Operate Most Hydro-Electric Developments

The great majority of the present developed water power in the United States is now operated by public utilities. From my general observations, I would judge this situation to be fortunate for the country and I would add, in this same connection, that it will be in the interest of the people to have all future harnessing of water power undertaken in the same manner. There are numerous reasons to be offered in support of this opinion. In the first place, it is not to be gainsaid, that private enterprise will promote the development in a far more intensive, efficient, and practical degree than may obtain under municipal or government ownership. Much misleading information is abroad as to the attainment in certain municipal ventures. The crux of the matter lies in the fact that stories circulated regarding Government operation are seldom if ever complete. The invariable overlapping of governmental departments, and the failure to properly segregate costs, makes a true analysis of any one function impracticable.

Statistics have proven that where municipal operation is practised, the per capita tax rate is considerably in excess of the localities lending encouragement to private undertakings. It is moreover to be preferred that all hydro-electric developments be prosecuted by the public utilities for the primary reason that they may utilize the stream flow to the maximum of efficiency through the diversity of the loads supplied, the delivery to distant power markets, and co-ordination with their steam power stations. In the case of public utilities, if the stream is of constant flow, then the hydro-electric station may be used to carry the base loads. On the other hand, if the stream exists in semi-mountainous passes where the run-off is rapid and the fluctuations in flow wide, then the impounding of the water in large reservoirs secures stream regulation which effectively provides for peak capacity at a lesser cost in certain localities than is possible with steam stations, and furthermore, will maintain this reserve or peak capacity at a minimum of standby expense.

#### The Part of Superpower

These advantages are greatly reinforced by the advent of so-called superpower systems. We hear much today of superpower besides a considerable dash of emphasis given to "Giant Power" in the State of Pennsylvania. It is to be deplored that the public mind is being befuddled, if I may express the situation in such terms, on gradual and logical outcome of an intensive development of the inherent possibilities of public service by utility management.\* As neighboring utilities reached out into new fields, their outposts naturally came within close range of one another and it was early apparent that a tie-in between their exterior lines would vastly improve the service to such outlying points.

There followed from this embryonic stage the conception of a substantial interconnection which would economize in reserve capacities to be installed and maintained by the two independent systems and also permit further savings where a difference in load characteristics existed between the two properties. A third step in the progress of this "Inter-Utility Service," as it may be appropriately designated, was the expansion of the facilities of the company most favorably situated as to fuel supply and condensing water to furnish the requirements of its neighbor in full or in part. There may also be co-operative undertaking on the part of two or more individual corporations to secure the benefits of concentrated production and investment.

A distinction has been attempted between so-called "Giant Power" and "Superpower." In the last analysis, there is no real difference outside of the terminology employed. "Giant Power" has been used to designate the final development in inter-utility service and the mere fact of a name should not mislead us into believing that a new departure in central station economics is about to be introduced. History of the electric utilities is replete with evidence of bold and heroic ventures embracing new and unexplored fields which aided in developing the many advantages now obtaining through this public service. There can be no doubt that the greatest amount of progress will ensue where an incentive exists for private undertaking and where there is reasonable freedom of action permitting the exercise of sound and prudent judgment.

#### Already Accomplished

Interconnections of sizable extent are now an accomplished fact. By voluntary action, public utilities are now virtually linked together from Boston to Chicago and beyond, from Lake Erie to the vicinity of Baltimore, from Virginia to Southern Alabama, and along the entire Pacific Coast. These are examples of the strides which have come through the exercise of private initiative. Large trunk lines of high voltage have been established and mammoth power stations have been jointly built by neighboring utilities. Thus superpower or "Giant Power," if you choose to call it by such terms, has for sometime passed from the visionary stage to that of present-day reality. These facts have now been widely heralded and active interest in further development is manifested in the several superpower reports which have been prepared for different regions of the country.

#### Public Interest Paramount

It is not to be construed from these remarks that governmental supervision or governmental proposals, even to the point of tendering subsidies, as has been done in the past, are not to be commended. First and last *Public Interest* is paramount.

There is certain need for governmental regulation of our public utilities for protection of both the investor and the public. But it is very important that the regulatory laws be administered on broad and liberal lines. Nothing thrives when too many restrictions are thrown around it which is not only true of animate life but also of the inanimate creations of mankind such as the utility corporations which now engage our attention. The utilities themselves over ten years ago championed the cause of regulations and are today aiding in the fulfillment of its purposes.

As was to be expected, there was a period immediately following the inauguration of new commissions in which the new conditions imposed upon the utilities were somewhat severe and relief was often tardily granted. Today with the advantage of a number of years of actual experience in handling these problems and with the aid of our highest courts in the interpretations of questions of law and equity, the commissions have been enabled to clearly define the method of procedure for public utilities in all phases of their activity and therefore provide for an even course of the business.

It is to be deplored, of course, that politicians at times attempt to make capital out of different public utility situations. Naturally, office seekers, demagogues, and self-styled reformers must have some instrument or subject over which they may excite public strife and unrest. Often those workings that are the least understood by the populace afford the greatest opportunity for the most bitter and vitriolic attacks or seductive appeals whichever it may be. Regulation will prove a corrective for any abuses within the industry. And, therefore, it is submitted that the time and attention concentrated upon public utilities is inordinately out of proportion to the consideration given to the major elements of the cost of living and our other economic needs.

#### Small Cost of Utility Service

The following divisions in the budget of the average wage earner bears witness as to the small part, only 0.5 per cent, which the utility service enjoyed costs him.

	Percent
Food .....	26.8
Rent and Fuel .....	22.9
Clothes .....	15.3
Insurance .....	4.4
Miscellaneous (vacations, entertainments, gifts, savings) .....	24.1
Street Car Fare .....	2.9
Water .....	1.2
Gas and cooking .....	.9
Telephone .....	.8
Electricity .....	.7

From an economic standpoint we have another anomaly confronting us. Glittering claims are made as to the great boon rural electric service will be for the farming communities and our scheme

for future electric development must comprehend distribution of power to the farmer through all reaches of the land. Such a startling proposal must be weighed with due regard to its ultimate economic effect. If it is contrary to economic laws then it must fail. No one will deny that full use of electric service on the farm would remove some of the drudgery from agricultural pursuits and provide comforts not now at the farmer's command.

#### The Rural Question

Essentially, an electric distributing system requires a reasonable density of load in order that the investment may carry itself. Rural lines may be extended as a general proposition on the basis of approximately \$1,000 per mile and such costs require five farm services per mile, including, all laterals from the main lines or arteries to justify the expenditures. Moreover, the farmer must undertake no inconsiderable investment on his own account. While the amount that might be spent varies between wide limits, an average farm of 150 acres would require expenditures approximately as follows:

House Wiring .....	\$80 to	\$200
Wiring other buildings .....	100 to	350
Appliances in the home .....	200 to	500
Appliances on the farm—small pumps, separators, etc. ....	150 to	700
	<hr/>	
	\$530 to	\$1,750

Thus for a prosperous farm of 100 to 200 acres the average expenditure on the property would probably be in the neighborhood of \$1,000.00.

In this entire question respecting rural service, it must be borne in mind that the major amount of labor on the farm is in the field plowing, sowing and reaping, in which electric service in its present stage of development cannot be economically substituted for other forms of power. Should the storage battery or its equivalent be sufficiently improved upon in the future, this limitation may be removed. There are instances where certain rural lines might be found profitable but its general application throughout the entire state or country is an entirely different situation.

If a state or municipal subdivision should develop unusual wealth and its internal revenues are sufficiently abundant, then such rural lines may be built out of these public funds and donated either to a farmers' bureau or association or else deeded to the utility as a subsidy. Even if the lines were acquired as a gift, the load may not prove attractive if the maintenance costs exceeded the income from the business.

The finances of any such political unit have not as yet been given wide publicity as far as the author is informed.

It has been pronounced that the big savings to issue in instituting the so-called "Giant Power"

plans should be made available for extending electric service to the farmer. First, the amount of benefit to obtain after all fixed charges in the enterprise must be established before any program for farm benefit may be formulated. Secondly, the needs involved in railway electrification and the further adoption of electric drive in industry should take precedence in the economic considerations over the claim of the farmer. It is to be expected that the improvement of transportation will enlarge the markets for farm products and the economies through extended use of cheap electric power in manufacturing will afford supplies and equipment to the farmer at lower cost and his lot will therefore be a better one.

A note of caution is to be sounded relative to disregarding the true and underlying economic factors. If it should become compulsory that rural service be carried even at a loss, then such deficit must be sustained by other classes of service. Owing to the competitive condition inherent in the power situation of the large industries and the railroads, the rates that must be quoted to secure this business cannot be loaded to compensate for the inadequacy of rural charges. Otherwise the railroads and the industries would undertake to generate their own power independently and the benefits from concentrating the generation of the loads in the community and investment likewise would be overthrown.

The above brief review of the new fad of broadcasting propaganda on "Giant Power" and "Rural Service" is to present some of the side shows to the big events. And if they are freakish as apparent, they will prove nothing more than of passing interest. With the freedom of thought which is our priceless heritage, common sense will prevail in these as in other instances so frequently exemplified in the annals of our country. And I leave the suggestion with this body of progressive thinkers that they seriously reflect upon these issues in order to lend their part as opportunity presents itself in safely steering our ship of state. With the splendid background behind us we may safely assume that the public utilities will proceed with the same rational and progressive development in future years as their record in the preceeding period discloses.

#### A Period of Achievement

Looking forward, we can foresee another period of achievement. The electric utility industry now represents an investment of about \$6,600,000,000 with annual gross earnings exceeding \$1,335,000,000. From prospects previously shown and with normal growth of the communities served, it is plain to be seen that this industry will require over \$25,000,000,000 of new capital. This industry has practically doubled itself every five years. Consequently, it would require ten years to reach the

above figure. Economic conditions may, of course, foreshorten or extend the time required to attain this estimated development. Earnings should, of course, increase somewhat in the same proportion.

An outstanding feature in the electric utility business is the comparative stability of earnings. This is due to the fact that the service in general is sold on a load factor basis, that is, the consumers pay for the service in two parts, consisting of a readiness to serve charge and an energy charge. Through this means the earnings and expenses automatically, so to speak, maintain such a ratio as to provide a uniform income to meet the carrying charges. This quality naturally will facilitate the financing of the huge sums required for future extensions. Seasoned utility securities now provide approved investments for savings banks, life insurance companies, and similar institutions. Likewise, customer ownership, that is, the purchase of the capital stock of the local utility by its consumers, is gaining in popularity.

#### The Bright Future

The statements heretofore made may appear rosy and somewhat visionary but would any one have dared twenty years ago to predict the marvelous revolution in machinery and appliances which have wrought such a change since the beginning of the twentieth century. Time of my graduating from

an engineering school was contemporaneous with the beginning of this period and I was then a "Doubting Thomas" when I scoffed at the idea of serving an apprenticeship in the infant automobile industry from lack of vision and the reason that I felt the "horseless carriage" would never proceed beyond the playing of the rich. It appeared at that time a too complicated piece of mechanism for the average man to understand, operate and enjoy.

The disillusionment that has been my lot and yours has created within me a feeling of humility and sometimes awe for the trained and organized mind. Witness the miraculous inventions and devices that were conceived and brought into use during so short a span as the World War. And even the radio and commercial airplane in later peace times. I am, therefore, emboldened even to hazard the prediction that the estimates above made as to the future possibilities err on the side of conservatism as opposed to optimism.

Think of it,—what demands may come to the central station if some means should be devised which would bring electric heating to a commercial basis or if the storage battery, extensively used even now, were perfected to the state dreamed of by the great electrical wizard, Steinmetz, during his life time. This, with the other things foretold, would make our present activities appear as mere trifles.

### W. J. Canada Is Appointed Electrical Field Secretary N. F. P. A.

ARRANGEMENTS have been completed with W. J. Canada of the engineering department, N. E. L. A., to act as Electrical Field Secretary of the National Fire Protection Association. Mr. Canada will act under a committee of the N. F. P. A. to be called the Committee on Electrical Field Service, comprised of representatives of the member organizations joining in support of this activity. These organizations are: the Association of Electricians International, the Electrical Manufacturers Council, the Electrical Supply Jobbers Association, the National Board of Fire Underwriters, the National Electric Light Association and the Underwriters' Laboratories.

It will be Mr. Canada's especial function to further the correlation of all efforts toward unification of electrical practice—particularly through the medium of more widespread recognition and understanding of the National Electrical Code as an American Standard as increasing economy, convenience and safety. Since it is in the actual concrete application of standards in the field that influences for divergence from standards of practice make themselves felt, the work of the field secretary will be more particularly directed toward cooperation

with code administrators and appliers in ascertaining instances of divergence and appraising their importance, the pressure for them, and the degree of waste and confusion they impose on the public. He will thus ascertain which existing or proposed variations clearly have a balance in their favor and can be brought into consideration for orderly revisions of standards as constituting a warranted judgment or experience in the field. It is expected that the field secretary will be able to assist in securing mature consideration of proposed divergencies from standards and in many instances assist in deferring such divergencies until, if justifiable, they may become a part of code revision.

Mr. Canada's earlier work has been mostly of similar cooperative engineering character and embraces electrical plant construction and operation, electrical inspection and engineering for fire underwriters and municipal authorities, safety engineering and the formulation of safety codes for the Federal Government, and general engineering studies of plant operation for electrical utilities. Mr. Canada leaves the Engineering Department of the National Electric Light Association, May 1, to undertake this new cooperative activity.



# Trails to California

By FREDERICK S. MYRTLE

*Editor, Pacific Service Magazine*

**A**BOVE all other months, June is the ideal time to make the trip to the Pacific Coast. It is, perhaps, a commonplace to remind our readers that Nature is at her loveliest at that time, and that cool, ocean breezes waft melodious greeting to

of that route is another which takes the traveler by way of the Yellowstone Park, terminating as does the other in the Pacific Northwest territory. Then, still farther south, the traveler westward is given opportunity to take another route, this over the

Bitter Root Mountains, followed by a run of over 400 miles through the southern end of the Cascades (this part of the journey all electrified). For those desiring a more central route there lies the choice between that taking in the Royal Gorge and the Feather River Canyon and that which crosses the plains of Wyoming, climbs the Rockies and enters California over the Sierra Nevada Mountains from whose summit one may look down upon Donner Lake, scene of the fearful tragedy of the winter of '46, and on the run oceanward one passes through the gold diggings that furnished material for the romances of Bret Harte, Mark Twain and other writers of the days of '49. Last, but not least, one may choose the southern route, which lies by way of the land of the Creole, the territory of the Rio Grande and the Mexican border.

Here, truly, is presented what the



(San Francisco Convention and Tourist League)

Mt. Hamilton and Lick Observatory

the heat-worn sojourners by Eastern shores. The transcontinental railroads are vying with one another in issuing all manner of attractive programs to view and enjoy the many scenic wonders that lie between the two great oceans.

The Northernmost route takes its way through the Mississippi River country, then crosses the Rockies and skirts the famous Glacier National Park. Leaving there, the route is over the northern portion of the Cascade Mountains, where, by the way, electrically operated engines are used to pull the trains through the many tunnels, and the Pacific Coast is reached by way of Rainier National Park and the noble mountain of that name that stands sentinel at the northern gate to the Pacific slope. Some distance south



(H. S. Lacton)

Feather River Canyon, on Western Pacific Railway





Lake Janet, Glacier National Park

French call an "embarrassment of choice." Each route has its own particular features of scenic beauty, with something of historical romance in the background. Then, upon arrival on the Pacific Slope, there is a long stretch of several hundred miles of coast line, from the Siskiyou Mountains at the northern border and the majestic Mt. Shasta through the upper Sacramento Valley to the Bay of San Francisco.

Whatever route be chosen, the visitor to the 1925 convention will find representatives of the local transportation committee on hand to greet him upon arrival. His baggage will be taken care of, transportation to his hotel provided and everything will be done to make him feel at home. During his week's stay by the Golden Gate the entertainment committee will provide novel features for his amuse-

ment. Recreation is always a feature of such gatherings, and in San Francisco there are many golf courses where one may breathe the invigorating air of ocean while chasing the merry ball over the links. It is understood that most of our prominent visitors will be accompanied by their ladies. It need not be said that everything will be done to make their stay one of pleasurable memory.



Red Eagle Falls, Glacier National Park

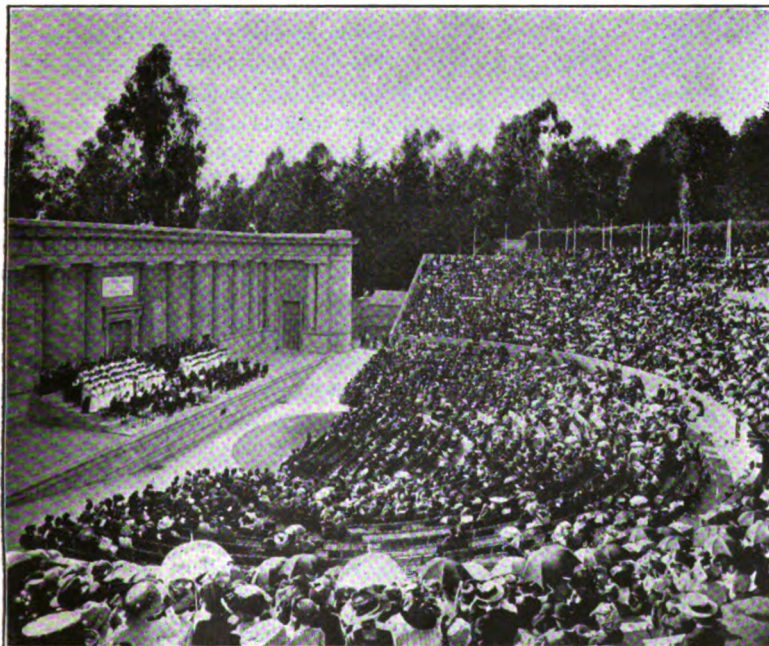
## Is the United States No Longer a Land of Opportunity?

THE radicals say it is not, but a sixteen-year-old Filipino boy, Gaudencio R. Pinaroc, has proved that it is.

At the age of thirteen, unable to read or write English, he worked his way on a boat to San Francisco, where he secured a job as a house boy in an American family. Six months later he secured a position in the home of a California Assemblyman, Eugene W. Roland, in Oakland, Cal.

Three years after landing in the United States, he, in competition with more than 45,000 other American boys and girls, won second prize in the National Home Lighting contest, being awarded a four-year scholarship in any university he may choose, as well as two cash prizes of \$500 and \$50 given by local and regional committees of the National Electric Light Association.

This boy is now attending high school and is looking forward to entering college. He believes that the United States is still a country of unbounded opportunity for anyone who is willing to pay the price—Work.



(San Francisco Tourist and Convention League)

Greek Theatre, University of California, Berkeley



# Power in Pennsylvania

By CHARLES PENROSE

Assistant General Manager, Day & Zimmerman, Inc.

Abstract of an address at Third Annual Hydro-Electric Conference, Philadelphia, March 10, 1925, under auspices The Engineers Club of Philadelphia.

THE public in Pennsylvania has been informed through the public press, both in the news columns and editorially, of a so-called "Giant Power Report," which has been presented for the consideration of the Legislature of Pennsylvania. The report contains proposals, which if put into effect, would have radical bearing upon the future of Power in Pennsylvania.

For those who have not had opportunity to study the report, I will say that its significant features are first a proposal to establish so-called giant power generating stations, of approximately 500,000 K. W. unit capacity, at the mouth of mines in Western Pennsylvania, transmit this energy at probably 220,000 volts throughout Pennsylvania, and distribute this energy through the present electric public utility systems, whose generating capacity now installed would be used "for standby or intermittent service." The report would provide for further distribution either through municipal systems, incorporated districts or "consumers mutual companies," to be created in territory not now served.

When we reflect upon the immense investment represented in generating capacity operating today in the electric public utility systems in Pennsylvania, we will appreciate why such a proposal must merit the closest economic scrutiny. This is self-evident because of the intimate relationship, in Pennsylvania as elsewhere, that exists between the financial stability of the electric utilities and the financial stability of industry, manufacture, and indeed business itself within the State. You may be the judges as to whether the proposal (I quote) "our service companies will be relieved of the necessity for providing generating stations" is to say the least startling!

The report proposes that the so-called integrated power industry or "common pool of power" which would be created, be segregated into three separate classes: Major Generation, Major Transmission, and Distribution; and that *no corporation be allowed to do more than one of these three kinds of business.* In other words, we are to infer that an electric customer in Pennsylvania would purchase energy from a local utility company, which presumably would purchase energy from a transmission company, which presumably in turn would purchase the energy from a mine-mouth generating company.

## Mine-Mouth Plants

The mine-mouth giant power plants, of 500,000 k. w. unit capacity, would be financed by private

capital under permits limited to a maximum period of fifty years and conditioned upon the right of the commonwealth, or any permittee designated by the commonwealth, to take over and operate the works at the expiration of such period upon repayment of moneys "prudently" invested. In other words, a "recapture clause" after 50 years.

The "*mine-mouth company*," which for brevity we can so designate, would engage in the mining of coal and raise from the mines 25,000 tons of coal material per day, for 500,000 k.w. capacity; would operate a coal distillation plant capable of pretreating all the coal mined; would sell the high grade product for domestic and industrial fuel; and would pulverize the balance for the production of power. To put it another way, these companies would engage in an industry that would comprise coal mining, power generation, by-product manufacture and sale, and the wholesaling of all grades of coal not used in any of the operations. *Upon the assumption of a continued ability to market profitably all of these by-products and residue*, is based the nominal charge (25c. per ton) that the report assumes as the *cost of fuel* delivered in the bunkers at the power house. It is upon this figure that the economies of generation are predicated.

Let us examine into the economics of the proposal so far. We know that the electric public utility industry, in Pennsylvania as elsewhere, has had a degree of stability that has made its securities most attractive to bankers and the investing public. Unlike the industrials, the electric utilities have reflected little the general depression which industrially the country has been subjected to from time to time. This is in part due to the steady growth of population and in part to the diversity factor which the utilities have the advantage of in supplying a wide variety of industries, not all of whom are affected to the same extent in an industrial depression. In addition, certainly we must give the utilities credit for able and efficient management and for progressive policy towards greater economy, greater reliability, and greater adequacy of service; about this I shall have something more to say later. In short, the utilities have been as far removed as possible from the causes of industrial depression.

The proposal which is presented in "giant power" predicates the continued economic existence of the source of base load power for all of Pennsylvania, upon the continued ability of a group of industrial organizations, the mine-mouth companies, to market

profitably the immense quantity of by-products and residue which will accumulate daily from the mining of 25,000 tons of coal material, for each so-called "Giant Power" unit. It is not disclosed as to how this quantity of industrial commodity is to be disposed of, even in prosperous times, in competition with long established sources of supply, controlled in part at least by industrial interests in Pennsylvania and elsewhere who have requirement of these commodities which at the present time are secured from plants already established and representing large investment already made.

#### The Other Side of the Picture

Now look at the other side of the picture. Consider the status of the mine-mouth companies during a period of industrial depression, when as has already been shown, there is a remarkably sustained demand for power in Pennsylvania, *in the face of a steadily declining demand, and we may assume by application of the inexorable law of supply and demand, in the face of a steadily declining price scale, for the by-product and residue* which must be profitably disposed of by the mine-mouth company if its contractual obligations are to be fulfilled in supplying energy to the transmission companies, so that in turn these can fulfill their contractual obligations to the public utility systems, who in their turn are bound by contract with the electric customers throughout our checkerboard map, to supply their needs for electrical energy.

*Just where the need appears greatest for complete independence from the unavoidable fluctuations of economic conditions in industry, there it is this report proposes the most intimate and indissoluble dependence for power in Pennsylvania upon industrial conditions.*

Let us consider these mine-mouth generating stations. We know, and the report recognizes the necessity for condenser water supply for the efficient operation of these plants, that the coal resources of the State shall be conserved. You engineers know that in order to secure vacua which will give modern economies in steam turbo-generator operation, American practice requires as much as 400 tons of water to each ton of coal burned. You also know the great difficulty found in locating adequate water supply in proximity to the mines in Pennsylvania. The report proposes that the proverbially small summer flow of these rivers in Western Pennsylvania can be increased by flood storage to provide the desired water supply; or, in some locations, that recourse be had to cooling towers. Let us consider each of these two proposals separately, keeping in mind that these stations are 500,000 k.w. capacity each.

I will recall to your mind the unprecedented droughts of 1923 and 1924 in California that resulted in unprecedented scarcity in their water

storage. You will recall, too, the unprecedented droughts in New England within recent years. Can we consider the stamp of engineering approval given to a proposal that would place *the mainspring of the whole* of the power supply for Pennsylvania upon a reliance upon flood storage that is dependent upon seasonal variations, and this in a region where water scarcity is a tradition? As to the use of cooling towers, apart from their cost, again can we consider it good engineering to propose to place vital reliance, for tremendous generating capacities, upon what may be considered as wholly untried equipment, so far as American practice is concerned, in operation on the scale proposed?

#### Limitations of Artificial Cooling

Insofar as experience in artificial cooling has been gained by American operating engineers, it appears that installations using artificial cooling in this country *are of the order of less than one-tenth* of the size of the proposed giant power plants.

From the standpoint of economy in the use of fuel, artificial cooling imposes two fundamental limitations. The first is the impossibility within practical limits of securing condensing water at a temperature comparable with that of flowing streams. The second limitation is in the fixed losses due to increased pumping head in the operation of the condensing equipment when artificial cooling is employed. These two factors are entirely apart from any consideration of additional capital investment required for such type of installation.

From another viewpoint: Assuming that artificial cooling were practicable on a scale such as proposed for the giant power plants, we must not lose sight of the increased steam consumption, due to the moderate vacua that cannot be divorced from artificial cooling, and the effect upon fuel conservation due to the resultant increased consumption of coal. American practice further indicates that the use of circulating water (from stream flow) will procure vacua averaging at least *one and one-half inches better* than can be secured by the use of cooling towers. It is this one and one-half inches of vacuum that determines the difference between modern high operating economy and mediocrity. The coal pile knows the difference!

As to the elimination of all condensing equipment and reliance upon non-condensing operation, which the report touches upon as a possibility; I quote:

" . . . one man of broad vision has even suggested the other extreme and proposes doing away with the condensing requirement and design the giant power plants to operate non-condensing."

We must analyze the investment costs in boiler capacity and in specially designed large steam turbogenerator units to operate under these conditions and, at the same time, we must give regard to some



of the practical features of operation. In round figures, we find that for a 500,000 kw. non-condensing plant the boiler capacity and the water rate *will be increased 70 per cent* over a condensing plant. *In the name of conservation*, is the additional use of 70 per cent of coal at the mine-mouth worth the saving in railroad transportation? In the foregoing, a steam rate of 10 lb. per kw-hr. is taken for condensing operation and 17 lb. for non-condensing.

Further, assuming 70 per cent increase in steam consumption by a non-condensing plant over a condensing, we have another serious factor which must be given consideration. For a 500,000 kw. plant, operating at 60 per cent load factor, *the daily loss which is discharged into the atmosphere* in the form of exhaust steam, would be approximately 60,000 tons of water vapor! This is as much water as a Pennsylvania city of 100,000 population should use! For a non-condensing giant power plant, this amount would have to be supplied from some source, and treated, in order to maintain operation of the plant! All of this in a region where the scarcity of water supply has suggested in the report, the possibility of using non-condensing operation.

In the foregoing, so far as it relates to mine-mouth stations, I do not want to be misunderstood nor misquoted as opposed to any well-considered proposal looking toward the establishment of mine-mouth generating stations on a scale and under conditions of local demand that could economically fit into the picture in a specific power field, reasonably adjacent to and as a part of a public utility system that could absorb this energy without serious detriment under conditions of depression when the profitable disposal of the by-products and residue from the mine-mouth plant would become a matter of financial embarrassment.

This however is as distant as the Poles from the proposal of "giant power" where the whole dependence of power in Pennsylvania would be placed upon mine-mouth sources.

#### Transmission

Let us next consider that phase of the report which relates to Transmission. The report proposes that the "giant power" transmission lines at probably 220,000 volts be extended through Pennsylvania and occupy purchased or condemned rights-of-way acquired by the transmission companies or occupy and use under permit strips of land belonging to the Commonwealth as acquired under a Giant Power Board. Certain of these lines would be extended across the State from the mine-mouth stations a distance of 300 miles over the Alleghenies, to supply the Philadelphia district, whose industrial development has gained the designation "the Work-shop of the World."

With the present state of the transmission art, and probably for some years to come, we can have little expectation that *the specific problem presented by the close requirements* of a metropolitan power market such as in the eastern district of Pennsylvania can overcome the *economic* barrier which "outages" present, assuming, as in the report, that main reliance is placed upon transmission over distances of 300 miles across Pennsylvania.

Again, the immediately preceding statement is not to be construed as opposed to a policy upon which the electric public utility systems in Pennsylvania already are embarked; the policy of *interconnection*, through high tension transmission, coupling those systems which *economically* can be interconnected, for greater reliability, greater over-all efficiency, and greater advantages in the pooling of emergency capacity. You will recall the monumental report undertaken in 1921 by the U. S. Department of the Interior, which first proposed Superpower, and coined the term. Its recommendations proposed for efficiency and economy a superpower zone on the Atlantic Seaboard, extending from Boston to Washington and approximately 150 miles inland, applying the principle of system interconnection.

We can go further and say that the 220,000-volt interconnection trunk lines, which are already designed and on which construction is about to commence in the eastern district of Pennsylvania, follow almost identically the recommendations for such lines as found in the Super-power Report of 1921. The construction is being financed privately and undertaken by the electric utility systems that are affected. It is safe to say that this program will further be proceeded with just as rapidly as the economics of the situation warrant. If you will examine any map of Pennsylvania that shows the existing high-tension transmission lines over which large blocks of energy are interchanged between electric utilities in the State, you will perceive to what extent already the principle of interconnection has been applied—with economic advantage alike to the industries and to the people served by these systems.

#### Elephants

Keeping in mind the economic considerations that we have analyzed, can we consider accurate the following statement, which I will quote from the pages of the Giant Power Report, to wit:

"Giant power and superpower are as different as a tame elephant and a wild one. One is the friend and fellow worker of man—the other, at large and uncontrolled, may be a dangerous enemy. The place for the public is on the neck of the elephant, guiding its movements, not on the ground helpless under its knees.

"Giant power seeks the cheapest sources of power, and hence the cheapest rates. . . .

"Superpower, on the other hand, is the interchange of small quantities of surplus power at the ends of the distribution wires of each system. . . .

"The main object of the superpower idea is greater

profit to the companies. The main object of the giant power idea is greater advantage to the people. Giant power . . . will set aside the threat of the most dangerous monopoly ever known."

Those of you who are familiar with the government report of 1921, which needs no defense and no apology, will credit it with no objective other than the public interest, and will recognize that superpower is *not* the interchange of small quantities of surplus power at the ends of the distribution wires of each system. But how is the public in Pennsylvania to know these facts?

All this leads us to a consideration of just what is the character of the electric public utility industry in Pennsylvania, under which conditions is it operating, and how fully is it living up to its opportunities and obligations. The issue is squarely presented, and I shall attempt squarely to meet it.

Under the plan under which the electric utility business is conducted in Pennsylvania, the operations, service, rates, and the methods of accounting of these companies are under the jurisdiction of that regulatory body which you all know as the Public Service Commission of the Commonwealth of Pennsylvania.

#### Security

In addition, the issuance of securities by the electric utility companies in Pennsylvania is governed by the following statute; I quote from The Public Service Company Law (the *italics* are mine):

"It shall be lawful for any public service company—

"To issue stocks, trust certificates, bonds, notes, or other evidences of indebtedness or other securities or make any increase in the issue thereof, in the manner prescribed by law, for and only for money, labor done, or money or property actually received, *in accordance with the requirements of the Constitution and the laws of the Commonwealth.*

"*Every public service company shall file with the commission on prior to the date of issuance of any stock, trust certificates, bonds, notes, or other evidences of indebtedness or other securities payable at periods of more than twelve months after the date thereof, and now or hereafter to be authorized (unless, upon application as aforesaid, a certificate of valuation shall have been obtained in accordance with the provisions of this act), a certificate to be known as a Certificate of Notification, in such form as the commission may, from time to time, determine and prescribe. . . .*"

It is important for you to remember that public utility service in Pennsylvania also is governed under the law. Again I quote directly from the statute:

"It shall be the duty of every public service company—

"*To render and furnish all such service at prices, charges, rates, tolls, fares, or compensation that shall be just and reasonable and in conformity with such reasonable regulations or orders as may be made by the commission.*"

In the determination by the commission of the reasonableness of rates, one of the important considerations is a *fair return on a fair value of the property used and useful in performing its public function.*

As to how far-reaching are the powers which the

commission has in this respect in Pennsylvania, I will give a final quotation from the law:

"In ascertaining and determining such fair value, the commission may determine every fact, matter, or thing which, in its judgment does or may have any bearing on such value; and take into consideration, among other things, the original cost of construction, particularly with reference to the amount expended in the existing and useful permanent improvement; with such consideration for the amount in market value of its bonds and stocks, the probable earning capacity of the property under particular rates prescribed by statute or ordinance, or other municipal contract, or fixed or proposed by the commission, and for the items of expenditure for obsolete equipment and construction, as the circumstances and the historical development of the enterprise may warrant; the reproduction costs of the property, based upon the fair average price of materials, property, and labor, and the developmental and going concern value of such public service company; and these and any other elements of value, shall be given such weight by the commission as may be just and right in each case."

To continue a simile which you may recognize, the public is already on the neck of the elephant. It is desirable both from the viewpoint of the public and of the utility that this should be so. There is protection for both parties in the regulatory powers of the Public Service Commission. How conscientiously this prerogative is exercised in the public interest is known to those of you in this audience who have the exhaustive sworn report to execute, that are regularly forwarded to Harrisburg!

How widespread is the application of regulatory power throughout the United States cannot better be expressed than in these recent words of Secretary of Commerce Hoover, I quote:

"There is scarcely a single utility today that is not under public control through some governmental commission, local or national.

"These commissions today fix the rates, the issues of stock, the time tables, the car service, the profits.

"Regulation has, through stabilizing rates, reduced the cost of capital by increasing the security for the savings of the people.

"From this security and within our generation there has come a new tide, and that is toward popular ownership as distinguished from government ownership."

#### About Monopoly

*Now on the score of monopoly:* Most of you here tonight will remember how in the earlier days there were competing public utility companies in various communities in Pennsylvania, just as today there are competing chain-stores and butcher shops. You will remember that the investment in plant, in equipment, in distribution facilities, was duplicated, and that operating costs had to be paid by two companies instead of one.

As against this early picture, we have today in Pennsylvania that of a *regulated monopoly*, which eliminates this waste of duplication. The wrecked companies that have passed into financial oblivion, through competition in the utility field, are well nigh forgotten. We may profitably recall them in the present discussion. Power in Pennsylvania today is upon a stable, economic and *regulated* foundation that is just alike to public and companies.

Stations of larger and larger capacity are being built in response to the only economic pressure that justifies them—the increasing demand for electric service. Not many years ago in Pennsylvania stations of 100,000 kw. capacity were numbered among the Seven Wonders of the State. Now generating capacities of 600,000 kw. under a single roof are projected. The principle of interconnection—“Superpower,” if you like—is being applied between reasonably adjacent systems, in those cases where again it can be economically justified. It is the old story that every successful business enterprise must show a return on the investment. Hydro-electric resources are being developed and tied in with existing utility systems. We are in the midst of a period of sound, progressive and economic expansion of the electric resources that constitute power in Pennsylvania.

As the Giant Power Report invokes simile, so may we have recourse to metaphor! Repeatedly in the report we find the giant beating his head against the unyielding wall of fact.

I will quote a statement from the report and then lay the facts before you. The statement: “It should be remembered that regulation at present affords almost no incentive to efficiency. The influence toward better methods exerted by competition in private industry has been largely eliminated among utilities, and thus far nothing has been found to take its place.”

#### Efficiency

Recently the speaker had occasion to discuss with a nationally known authority, the Director of the U. S. Geological Survey at Washington, the facts as to what the electric public utilities are doing in Pennsylvania. I will read you, in its entirety, a letter received a few days ago from the Director, whom so many of you know personally, Dr. George Otis Smith. The letter is this:

“My dear Mr. Penrose:

“The statement which I made Tuesday before the Engineers Club relative to the public utility power plants of Pennsylvania seemed to me to best express the increasing efficiency of large unit interconnected stations. The better use that we are making each year of our coal takes conservation out of the realm of academic discussion into that of actual results.

“On the basis of the figures furnished me by Mr. Horton, who as you know has charge of this particular subject of investigation in the Geological Survey, the average output of the public utility power plants of your State last year was 950 kilowatt hours to the ton of coal an increase of 100 kilowatt hours over the 1923 record, but with three big plants which together generated about 37 per cent of the total fuel-generated electricity in the public-utility power plants of Pennsylvania the corresponding output was 1550 kilowatt hours to the ton of coal last year, an increase of 150 kilowatt hours over the 1923 record. In other words, these three plants reduced their kilowatt-hour consumption from 1.43 pounds of coal in 1923 to 1.29 pounds in 1924. This saving of  $2\frac{1}{4}$  ounces of coal per kilowatt hour is what I termed “saving coal by the spoonful,” but even so small a saving if extended to all of the public utility power plants in your State would have amounted to more than one-third of a million tons.

“The other statement which I made yesterday, again on the authority of the figures compiled by Mr. Horton, was the comparison between the fuel consumption and power generation of your Pennsylvania stations last year with five years before. As you know, the Geological Survey records are now available for the years 1919 to 1924. In the fuel-consuming power plants the equivalent coal consumption for 1919 was 5,060,000 tons, in 1924 it was 5,276,000 tons, an increase of a little more than 4 per cent. In this same period, however, the output of these plants increased from 3,070,000,000 kilowatt hours to 5,001,000,000 kilowatt hours, or 63 per cent. You may remember that I also commented on the fact that water power is not keeping up with the procession either in your State or in the country as a whole, the water power plants furnishing something like 11 per cent of the power generated last year in Pennsylvania, as against 16 per cent in 1919, the corresponding figures for the United States being 37½ per cent in 1919 and a little less than 34 per cent last year.

“I trust that these extracts from my talk of yesterday will serve your purpose. I think such a record of increased efficiency should both gratify your engineers and encourage the general public.

“Yours very cordially,

(Signed) GEORGE OTIS SMITH,  
“Director.”

I scarcely need add to this comment by Director Smith upon fundamental phases in which the electric public utility industry in Pennsylvania is living up to its opportunities and obligations.

#### The Small User and Economics of Distribution

The Giant Power Report raises another issue to which the public in Pennsylvania are entitled to the facts. I quote:

“It is the small user, the average consumer, to whom the companies charge their highest rates.”

Suppose we visualize the economics with which the electric utility company's problem is concerned in a contrast between the costs of production, disposal and sale of *two quantities of energy*, each of 6000 kva.; one, a large number of small customers in a large area supplied at low voltage; the other, a single large customer supplied at high voltage. Here again the economics of the problem show clearly that the cost of facilities necessary to supply and serve small blocks of energy distributed over an appreciable area, in contrast with the supply of the same quantity of energy in bulk to a single customer, *bears the same relationship as the cost of delivery of small packages bears to the cost of transporting the same quantity of material in carload lots.* Visualize, if you care to, the economies and savings for any utility in the bulk disposal of generated energy at, say 13,200 volts directly to the customer's own industrial sub-station, as compared with the cost of generation and particularly distribution of a *like quantity of energy* among relatively numberless small retail customers. While the cost of energy and of losses in distribution and shrinkage will not be greatly different in the two cases yet it costs the electric utility company vastly more to provide and maintain the facilities to supply the smaller users.

This imaginative appeal which the Giant Power Report makes, lays renewed obligation upon the engineering profession to let the public know what are the facts. Let us examine the statement:

"The time is fully in sight when every household operation from heating and cooking to sweeping and sewing will be performed by the aid of electrical power; when every article on the average man's breakfast table—every item of his clothing—every piece of his furniture—every tool of his trade—that he himself did not produce, will have been manufactured or transported by electric power; when the home, the farm, and the factory will be electrically lighted, heated, and operated; when from morning to night, from the cradle to the grave, electric service will enter at every moment and from every direction into the daily life of every man, woman, and child in America."

#### About House Heating

Probably many of us know of the study and investigation into *the commercial possibilities of electric house heating*, conducted recently by the Smithsonian Institution at Washington. Their summary of the situation was crystallized in the opinion that "electric heating of houses from an economic viewpoint is impossible." The Public Utilities Commission of Idaho, in their "Opinion on Electric Heating," said this:

"We all know that electricity does produce heat, and we all realize and appreciate what a wonderful thing it would be to dispose of our coal piles and ash pits, and smoke, dust and cinders, and would, therefore, fain think it practicable. But a most cursory study of the subject either from the standpoint of thermal dynamics, or social or economic science, shows that it is utterly impossible."

These Idaho investigations were concerned also with the investment that would be needed for electric house heating equipment. In this connection their report continues:

"This should, in itself, readily demonstrate the impossibility of rendering heating service, because it means that for the small five or six room house, costing from two to three thousand dollars, according to finish, a heating plant costing approximately \$3,400, must be provided in order to heat the house by electricity. Obviously, no sane individual would equip a house with such a plant, and no more can the public utility corporation make the investment for him."

The Hydroelectric Power Commission of Ontario, through the veins of whose transmission lines flows the life blood of Niagara, has made a report on house heating, with this introductory preface:

"An attempt is here made to eradicate, if possible, from the popular mind, this idea that electricity is destined to take the place of coal or other fuels for the heating of houses, offices, etc., on an extensive scale. . . ."

Ossa might be piled upon Pelion were we further to analyze some of the imaginative appeal to the public of Pennsylvania that one finds in the Giant Power Report.

#### Conclusions

Pennsylvania ranks seventeenth among the States in value of farm crops, being immediately preceded by New York and immediately followed by Michi-

gan. The yearly crop value in Pennsylvania is in the neighborhood of \$400,000,000. Pennsylvania farmers are entitled to every consideration in the matter of electric supply. The utilities are attempting to work the problem out, but the guess may be hazarded that it will have to be a gradual development. There is still homely truth in the old adage, "No matter where you are going you have to start from where you are." The national investigational studies cannot but be helpful. But in it all we must continue to bear in mind the difference between cost of equipment as against cost of power. Any engineer familiar with the problem of power production and utilization knows that if our economic stability is to continue in the United States, industry must continue to receive the cheapest power that is made possible by the conditions under which it is supplied. Industry cannot be indirectly taxed with costs due to other forms of service, no matter whether rural or urban. The whole rate fabric must be based solely upon the economics involved.

Nowhere in my remarks to you tonight have I alluded thus far to the accuracy or inaccuracy of the estimates of construction cost that are made a part of the Giant Power Report. In terms of its engineering and economic significance and *because of a single fact*, I feel reference is due to the "wave of the hand" by which in the report the "step-down" substations connected directly to the proposed 220,000-volt giant power transmission lines have been ignored in the estimate of cost. *The single fact which merits this mention* is, that a very cursory investigation indicates that the cost of equipment for taking energy from the giant power transmission lines to the lines of the local distribution utility companies *would be of the same order of magnitude as the report's estimated cost of the giant power transmission lines themselves*.

The mass of facts that have been presented cannot better be summarized than in that terse editorial comment, "Another Utopia," which you may have seen a few days ago in *Engineering News-Record*:

"In spite of the elaborate explanation of the report, the essence of 'giant power' is not justified. There is the utilization of low-grade coal, the emphasis of the mine-mouth plant, the novel idea of a power reservoir, and the separation of the production, transmission and distribution of electricity, but the engineering bases are not convincing. The by-product production would be more satisfying if one knew what is the market for all the by-products. The mine-mouth plants would sound better if there were not reference to a minimum 20,000 tons per day of coal per mine plant, when the largest mine in the world today produces less than 10,000 tons per day. When one looks at the many plants today struggling to better 40 per cent, the 60 per cent load factor sounds somewhat idealistic, and the \$75 per kilowatt first cost of power plants would be welcomed by those engineers who are having a hard time building similar plants for \$100 or \$125. Finally, one would like to see some explanation of *how* electrical energy is to be stored in this 'pool' into which all of the power plants are to feed."



# Superpower and the Railways

By E. H. SNIFFIN

*Manager Power Sales Department, Westinghouse Electric and Manufacturing Company*  
An address before Central Electric Railway Association, Dayton, Ohio, January 9, 1925.

YOU will find in the history of all human enterprise that public ignorance has laid at the root of most abuses. At first it fostered license, permitting undue privilege to the few, and then with its rude awakening, still in its ignorance, the public has often tried to apply remedies that were worse than the disease itself. We have seen the enterprise of electric traction pass through somewhat that sort of evolution.

The men now managing this industry are the makers of its Renaissance, its reconstructors. They know what service the public needs; they know what this service is worth to the public. They are thinking of no greater return for their efforts than the nominal return required to insure their vitality and the adequacy of their service. They have come to learn that their biggest immediate job is to inform the public in order that they may recover the public's support.

I know how distasteful it must have been to many of you, dealing as you are with definite facts and concrete problems, to turn aside from your mental habits of a lifetime, and direct your attention to such matters as publicity and propaganda. Many a man conscious of his own real service, feels that his labor ought to speak for itself. But you never faced a more absolute fact in your life than this truth, that you can do nothing without the public's goodwill and support. You find that its good will and support have been lacking due to ignorance and prejudice and improper understanding and lack of proper contact. That being so, it seems to me that this word publicity takes on the dignity of truth and justice, of the square deal and of the Golden Rule. Don't relax your efforts to have the public understand your case.

But I am straying from my subject. I can only plead that it is difficult to stand here and face this railway audience without being impressed with its problems and feeling the impulse to discuss them.

## Interest of Railroads in Power

Your committee picked my subject "Superpower and the Railways." I am not a railway man, although with my office next to the office of Miles Lambert I could hardly be completely ignorant of railway matters. But I do have a great deal of contact with the power resources of the country, for that is my particular field of work. A dozen years ago I might have advocated, and did advocate, the railway taking its power from the central station. But most of them have by this time adopted that policy, and found the advantage of it.

What, then, is your interest today in this question of power, and more particularly in this latest phase of the subject, namely superpower, which means not the local interconnecting of existing systems, but the establishing of great power zones, themselves interconnected, using 220,000 volt trunk transmission lines? You are interested, for you are large users of power.

I find that the populations of our congested districts use for their transportation from 30 to 40 per cent of their total power consumption. Even in the less populous districts the power for traction service averages around 20 per cent. I find, too, that of your total operating costs, power constitutes something like 15 to 17 per cent.

So I take it you are interested in any movement that will tend to improve the availability and perhaps the cost of this indispensable commodity. Moreover, the importance of this question reaches to every inhabitant of the country.

I can recall the days when George Westinghouse introduced the alternating current in this country, for I was then associated with him. Nothing but direct current was in use. He saw what the alternating current would do for the industry. My! What opposition he encountered, from competing electrical interests, from the press, from Legislatures, from the people. Why, they said, here was a deadly current that would be dangerous to life, had in fact killed people. He said we must use it and we must make it safe to use. And today where would we be without it? We now use the alternating current in about 95 per cent of all our electric transmission.

## Development Only Beginning

If you will permit me to exaggerate a little bit—and not so very much either—I venture the assertion that our position today, relative to what we can do, compares in its State of undevelopment to the place we occupied in 1885 when direct current was the only system we knew. Do you realize that electric service is today only touching about 65 per cent of our population; that only about one-third of our homes use it; that inefficient isolated plants still aggregate as much total power as all the central station plants combined; that power generation as we conduct it today is taking about twice the coal it should and that if all this power were developed with the efficiency of our best existing central stations, it would save about 150,000,000 tons of coal per annum and perhaps the labor of 500,000 people?

Is it not impressive to know that over 80 per cent of the potential water power of the United States

still remains undeveloped, more undeveloped water power than all the power we are using today?

So we can see clearly what lies ahead of us. We have got to utilize every available source of power that we possess, and bring this power to everyone, everywhere. And that is what we mean by superpower. Many power developments not considered heretofore feasible because of an inadequate market would be entirely practical as part of a comprehensive system. The rural regions that cannot today be economically served by a restricted local system, would under a countrywide plan, find this service available. Once you visualize a system extensive enough to embrace widely separated sections of the country, with all the diversity factor of these sections, and think how it would improve the load factor on all the equipment, then the problem of getting electric service to the farm can be more readily solved. You cannot run trolley cars through some sections of the country, because it wouldn't pay. For the same reason it has not been possible to run transmission lines to many places where they would have been a great blessing, but in my opinion there is enough saving possible in our present methods of operation, to enable us to extend the benefits of electric service to the tillers of the soil, and I think the idea will not reach its full fruition until we do.

#### Electric Service Cheapest Thing We Buy

I am not so interested in the lowering of power rates. *Electric service is the cheapest thing we buy. It is the one commodity we have been getting for less and less money while the cost of almost everything else has tremendously increased. What we are concerned in is that we shall have plenty of power wherever we need it and that we shall use our resources to the best advantage.*

The public has heard about superpower and is interested. It does challenge the imagination, even of the layman. Articles are written about it and the politicians are listening. A recent candidate for the Presidency stood openly for the Government ownership of public utilities. Governor Smith, of New York, thinks the water powers of that State belong exclusively to its own citizens. Maine has a law prohibiting the export of its hydro-electric power. Governor Hunt, of Arizona, was recently reelected on the issue of whether Arizona would join the seven-State agreement concerning the power development of the Colorado River. Six other States had consented, but Hunt was opposed and he was reelected.

#### Must Be Free Interchange Between States

If a State intends to confine the use of its water power within its own borders, that would defeat the superpower idea. And it might just as well cut off its railroads and its telephone and telegraph lines at the border, and its highways. If we are to have a great reservoir of interstate power supply, what

State is there that would not reap its advantages, nor could hold aloof from contributing its share to the common fund.

I don't suppose there is any provision of our Federal Constitution that has conferred more benefit on the country than the clause which provides for free trade and free intercourse between the several States. It brought our people together, enabled them to share in the common benefits, brought them to good understanding. It nationalized them.

Of course, they knew very little in that day of electric power, but if they did assert that the products of one State should find free entry to the markets of another, would they have sanctioned the right of any State to refuse to exchange power with another, either to receive it or send it, this obvious National benefit that knows no political boundaries and belongs to all the people. Shall each State keep for its own use all the treasures of its soil and waters? No, it is the exchange of these benefits that makes a nation. What do you suppose the people of a State, once they understood this question, would do to a political party that tried to wall them in and away from this common heritage?

But there's a still more important phase of this subject—one that you have heard before, and will hear more of, and one that comes pretty close to your own interest. That is the question of Government ownership. That question has not yet become a dominating issue which the power people have had to meet. It is in the air, and as the public imagination comes to grasp more clearly the economic elements of a general power supply, the very fact of this greater public interest will naturally incite political agitation. And I doubt not that in due time the power people may be reading some very useful lessons out of your own book of experience.

#### Municipal Ownership Failures

There are today in this country something over 1000 municipally operated electric power plants. Most of them are small and aggregate a meagre percentage of the total central station capacity, not more than 4 per cent. They do, however, constitute about 20 per cent of the total number of central stations. A few of them, where they are large in size and of modern design, are efficient plants. Most of them are economically indefensible. Within the past five years over 800 of these small municipal plants have gone over to private ownership.

The greater part of these plants have owed their existence to mass emotion that political appeal so easily excites when it champions the people against the corporation. If the corporation can make money in serving the public, why should not the people save that money—that profit—and supply their own service at cost. Why not, indeed, if they can reach the same cost!

It might be well to ask if there is any thoughtful

American who thinks that the Governmental machinery of our country today—city, State or national—is operated efficiently. Even if honesty prevailed everywhere, would it still be efficient? Could you rid it of political motive, or bureaucratic lethargy and from the ignorance of ill-fitted and temporary incumbents? Would you say, then, that such a system would succeed in conducting a highly specialized and complicated business like the power supply? The question answers itself.

#### **An Object Lesson in England**

Have we not a pretty good object lesson in England, where they have a civilization, so much older than we, that their best men train for public office and high honor attaches to political position, even in their municipalities? Have we not seen how they have fallen down under a system where 65 per cent of their generating capacity is municipally owned. England which invented the steam engine—steam power; England which started the world's industrial revolution which in a few decades made her mistress of the world's wealth, finds herself today, under Government ownership of her power utilities, so outstripped by our country with its system of private initiative, that she is beginning to take stock. They have just as efficient apparatus as we—nothing wrong with their engineering, their science, their capacity for invention. Their malady is economic and is the result of bureaucracy attempting something that belongs to private initiative.

A recent English visitor asked me why it was he could purchase most things at home for half their cost here, and yet we got our electric power for half the price they paid. I told him the reason for it was that England had never gone into the electrical business. In round numbers our per capita consumption of electrical power is three times that of England. And we put behind our average workman more than twice the power she puts behind her average workman. And we pay our workman  $2\frac{1}{2}$  times the wages she pays hers.

The public debt of the country—Federal, State, County and Municipal—is about \$35,000,000,000. This debt would be more than doubled if the Government took over all the utilities. And the present per capita tax of nearly \$100 which we now require for the cost of Government would be greatly increased. The proponents of the idea argue that the Government could raise the money at less cost by the issuing of tax free bonds. True, but where would the money come from which private ownership now pays to the Government in taxes, some \$665,000,000? The Government must go on. The people must support it in one way or another; so increased taxes would have to supply the deficit.

But the question lies deeper than that—it goes further than economics. Business is business, and most of us are so immersed in our work that we are apt to think that business is everything. When we

think about our form of Government at all it seems like a historical subject, something that the fathers started wisely and in which the problems have all been solved. The truth is that each generation of our people confirms or questions the stability of the American Commonwealth. It is true also that the world of nations is a troubled world. We are one of these nations, and we are exposed to the dangers that surround all human society. I think we cannot escape the conviction that the tendencies in our own country for the past 25 years have been to socialize and centralize the authority of Government. Individual freedom is not interpreted in quite the same way.

As I said before, a recent Presidential candidate advocated strongly the Government ownership of utilities. Of course, he was badly defeated, but that doesn't mean that his ideas are dead. Nearly 5,000,000 of our people voted for him. Does he want us to abandon a form of Government intended to be political in its nature and substitute for it a Government that will go into business and socialize a large part of our individual wealth? If so, where shall we stop? They speak now of utilities. Would they stop there? Would they not in all logic presently include our food supply, our fuel, our clothing, all the necessities of life? Can we not see the spectre of communism stalking behind this central idea of political ownership?

We have forged ahead under the rule of private initiative. The public must be protected both as customers and owners of our utility companies. They are protected by Government control and regulation. But Government operation has never proved its case, either in theory or practice.

#### **A Good Beginning With Superpower**

We have already made a good beginning with superpower. Superpower seems to be one agency with which we can meet our increasingly difficult economic conditions. Sometimes I take a second look at the dollar in my hand to see if it isn't a German mark. It doesn't seem to buy me very much. I pay a good deal more to live today than I did fifteen years ago, and in many respects I do not live as well. The fundamental reason is that we are outgrowing our ways of doing things. Transportation facilities are inadequate and agriculture and manufacture are confronted with rising costs. So our millions of horsepower of water that is now going to waste must be employed. We must stop all waste, the wasteful use of coal that must be mined, transported and distributed. We must save the wastes in duplicating local plant capacity whose idle hours pile up because of restricted diversity factor. Power must take the place of manual labor. It must be the great servant of our peaceful pursuits, and a vital factor if we are at war. Its fullest National development is an indispensable element in our future prosperity and happiness.

# Customer Ownership Subject of Academy of Political Science Meeting

CUSTOMER and employee ownership in all its phases was discussed at the semi-annual meeting of the Academy of Political Science held March 9 at the Hotel Astor, New York City. Twenty speakers representing the public utilities, labor unions, U. S. Government Departments, economics, educational institutions, law and other groups were on the program.

Dr. Samuel McCune Lindsay, President of the Academy, dramatized the customer ownership movement as "an economic revolution" which has occurred since the war by the shift of property ownership from the few to the many.

The growing importance of this phenomena of industrial and social change was shown by statistics submitted to the academy by Robert S. Binkerd, Vice-Chairman of the Committee on Public Relations of the Eastern Railroads. Mr. Binkerd pointed out that since 1918 public utility and corporate enterprises have added to their rolls at least 3,500,000 stockholders, including 500,000 employees, 1,000,000 customers and 2,000,000 from the general public. He also pointed out that there had been an increase of at least 2,500,000 bondholders since 1918 and that at least 1,800,000 farmers had become interested financially in cooperative buying or selling. In the same period, he said, more than 28,000,000 savings accounts had been opened, and savings deposits had nearly doubled.

"We are fast creating an economic society," said the Binkerd report, "in which every responsible adult is tending to become interested in corporate conduct and corporate profits."

Thomas N. Carver, Professor of Political Economy, Harvard University said that "no economic movement of the present day is more significant than the rapid diffusion of ownership. Its most important phases are: 1. The increase of savings deposits of all kinds. 2. The growth of industrial insurance. 3. The rapid increase in the number of investors in the shares of corporations, especially among customers and employees. 4. The growth of labor banks. In all these ways events are developing so rapidly that figures are always out

of date before they can be verified and published."

As to the results to be expected from the diffusion of ownership, Mr. Carver said they would be far-reaching and include:

"The elimination of a class-conscious conflict between laborers and capitalists—in other words, a blending of the laborer and capitalist classes;

"A real democratization of industry, as distinguished from spurious democratization in the form of public ownership;

"The elimination of absentee ownership from most of the well established industries;

"The development of a new interest in their work on the part of workers, and a new interest in the success of the industries that serve them on the part of customers.

"The elimination of that bane of constructive business, the cheap politician who fattens on class antagonisms."

Howard T. Sands, of Charles H. Tenney & Co.

and vice-president of the N. E. L. A., said customer ownership "is bringing to many an investor, probably for the first time, a new sense of ownership and of personal interest in, and responsibility for, the welfare of these utilities. There is abundant evidence that these new investors are taking this responsibility seriously, and are regarding attacks upon the industry in the light of their personal interest. It is bringing a better understanding of corporate undertakings, and how money can be, and is, used in a cooperative way for the service of society. This sense of ownership, to my mind, is one of the most wholesome effects arising from this movement; and, in my opinion, brings a measure of individual satisfaction that can never be secured by any form of profit sharing." He continued:

"There are signs that these new partners are interesting themselves in the management of the companies in which they have invested, and in some instances this interest has been manifested by suggestions made for improvement in management. It may be argued that this manifestation of interest in management is an alarming symptom which should be seriously heeded, that there is danger that these new stockholders may unite for common action, and

Newspapers and financial magazines have published excerpts and editorial discussions of the customer ownership meeting of the Academy of Political Science. All of the addresses and papers will be published in full in the volume of Academy proceedings, now being printed.

Those who desire to obtain this volume may secure it by sending \$2.50 to the Executive Secretary, Academy of Political Science, Columbia University, or by becoming a member of the Academy, upon payment of annual dues of \$5.00, for which you obtain all membership privileges, including the various publications of the Academy. Those interested in what the Academy is doing, by way of frequent discussion of important and constructive public questions, are invited to join the Academy and thereby help support its work.



that those now responsible for management may awake some day to find that their new partners have risen up and overthrown them. An honest management has but one thing to fear from this wide diffusion of ownership, and that is action based on ignorance, rather than malice.

"This silent revolution is affecting the industry as well as the public. It is bringing to those charged with its management a realization of new responsibilities. It is obvious that our first and foremost obligation to these new partners is to see to it that the securities purchased by them are fundamentally sound; that they represent real value; that the properties are so managed as to maintain their physical integrity, and to return to the investor a fair wage for his money. But our obligation does not end there. In fact, it just begins. These new investors are now partners. They should be admitted to full partnership and accorded all of the rights and privileges which this involves. We cannot meet the situation by merely sending them the annual statement showing the results of the year's operations and the then financial condition of the company. We must go very much further than this, and with care and pains acquaint them with the details of the business, if we are to realize out of these new relationships an intelligent and cooperative partnership.

"Nor is this obligation limited to those who have directly invested in our business, but extends to others whose financial interest through the investment by banks, insurance companies and other institutions, though indirect, is just as real. In fact, so widespread is the financial interest of the whole public in our industry that we are led to the logical conclusion that this obligation to explain its problems and fundamentals cannot be limited to any one class, or group but must embrace the whole public, whether partners, customers, or otherwise."

#### Secretary Hoover Speaks

Secretary of Commerce Herbert Hoover, the principal speaker at the dinner held in the evening, delivered his address by radio from Washington, where he was attending another public dinner. Former Secretary of War Henry L. Stimson, who presided, introduced the Secretary as if he had been present.

Mr. Hoover said the wider diffusion of property ownership was "one of the continuous and underlying problems of sustained democracy" and that we had a wider diffusion of property than any any other nation. The present tendency, he thought, was a by-product of the war. With increasing national wealth, he went on, the diffusion of ownership should be greater than its concentration, for the sake of better standards of living and comfort. In the field of home ownership, he said, the United States was going backward. It had fallen nearly 10 per cent in ten years.

William A. Prendergast, Chairman of the Public Service Commission, said that the new "reign of the small investor" was vindication of the principle of regulating public utilities. He said the public could depend on the regulating authorities to stand firmly against any encroachment upon its rights through unfair use of power by investors.

#### Other Speakers

Other speakers of the day and their respective subjects were:

"Employee Participation in Ownership," Arthur Williams, Vice-President New York Edison Company; "Cooperative Ownership in the United States and Europe," Pierrepont B. Noyes, President Oneida Community, New York, American member of Inter-allied Rhineland Commission; "Farm Ownership and Tenancy," Lewis Cecil Gray, Economist in Charge, Division of Land Economics, United States Department of Agriculture; "The Diffusion of Stock Ownership of the New York Central Lines," Albert H. Harris, Chairman Finance Committee and Vice-President New York Central Lines; "The Relation of Law to the Modern Developments in Property Ownership," Eustace Seligman, of Sullivan & Cromwell, New York; "The Labor Banking Movement in the United States," Sidney Hillman, General President Amalgamated Clothing Workers of America, President Amalgamated Bank of New York; Samuel W. Rayburn, President Lord & Taylor, New York; George Soule, Labor Bureau, Inc., Director-at-Large National Bureau of Economic Research; "The Relation of a Wider Distribution of Corporate Securities to Sustained Business Prosperity," William T. Foster, Director of Pollak Foundation for Economic Research, Newton, Mass.; "The Small Investor and Railroad Ownership and Management," Fred H. Wood, Interstate Commerce Counsel, Southern Pacific Railway; "The Development of the Ownership of the Bell Telephone System," F. L. Devereux, Vice-President of the Bell Telephone Securities Company New York; "Policyholder Ownership and Interest Through Investment of Life Insurance Funds," Robert Lynn Cox, Vice-President, Metropolitan Life Insurance Company; "Consequences of Impersonal Ownership," Herbert C. Pell, Jr., Chairman of the Democratic State Committee of New York; Arundel Cotter, Editorial Staff, "Wall Street Journal"; "Stock Partnership," Henry L. Dennison, President, Dennison Manufacturing Company, Framingham, Mass.; "Present Significance and Future Effects of Customer Ownership," A Emory Wishon, Fresno, Calif., Chairman of the Committee on Customer Ownership, National Electric Light Association. (Mr. Wishon's paper is printed elsewhere in this issue of the BULLETIN). Donald R. Richberg, Counsel for the Railway Unions, former master in chancery, Illinois Circuit Court, Cook County.

# Now and Tomorrow with Customer Ownership

By A. EMORY WISHON

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CUSTOMER ownership of public utility securities has inspired wide discussion and comparatively little argument. The word argument necessarily implies two-sided discussion. Yet until recently all discussion of customer ownership has been one-sided: It has insisted that here has been found at last the commonsense solution of the utilities' public relations problems. This is of course an error of enthusiasm.

Customer ownership is merely a means toward the solution of the public relations problem, not the solution itself. Understood from all its angles, considered strictly as a business proposition, thoughtfully and conservatively handled, it is a force of incalculable value in the promoting of understanding between public and utility. The modern utility believes—knows, in fact—that if its ideals and ambitions were understood, if it were regarded as a moderately paid servant striving to give satisfaction rather than as a greedy capitalistic monster heartlessly devouring helpless mankind, it would have little to fear from public ownership theorists, socialists, demagogues, and political tricksters and opportunists.

## The Dread of the Radicals

Customer ownership has apparently put fear into the souls of these—fear that here at last has been found material to make impregnable the wall around private business. Yet their attacks recently made, and which this fear has apparently inspired, have in them no thread of argument. They are merely wails against a system of promoting good will which weakens their own position and makes their dreams of the Utopia of Something-for-Nothing seem more difficult of realization to them, and more amusing to the sound-thinking citizenry. Some of them have even gone so far as to suggest the enactment of laws prohibiting customer ownership, such laws being necessary, they assert, if public ownership is eventually to prevail. In itself this is a confession of weakness—a tacit acknowledging that the system they advocate is not strong enough to compete with any other system having great public support or indorsement.

## The First Communistic Failure

The writer does not intend here to enter into the argument of public vs. private utility operation. It is, however, difficult to avoid entirely the controversy

in discussing the customer ownership. Public ownership has been a pet theory with political economists of the nostrum-seeking school from the beginning of time. In fact, the well-known Adam family, after its ejection from Eden, was to have been operated on a strictly communistic basis, with the people owning everything. But Cain loafed on the job, as someone always loafs in communistic operations, and the ultimate protest by Abel had dire consequences. The loafer destroyed the worker.

But with all the experiments that have been made, public ownership cannot point to one outstanding success which, under frank and fair analysis, will demonstrate superiority of the system over the system of private control. Even those publicly owned projects of which the theorists prate most loudly have maintained the semblance of success only by the careful concealing of facts, the equally-careful coloring of publicity, and special laws which have virtually subsidized them. Certainly there is little difference between an out-and-out subsidy and an exemption from taxes and sinking funds which private business must meet and maintain. Public ownership has been unable to stand the test of competition. Under similar conditions it cannot compete with a system that has developed through the ages and has the wisdom of the ages behind it, the system of private ownership, which inspires individual initiative through its promise of individual reward and which makes efficiency the first word of its lexicon of work.

## The Utility Is Radicalism's Pet Target

Yet the public has a right in the utility which transcends even the private property rights of its ownership. The utility exists by public franchise, one of the incorporeal hereditaments of common law so long recognized that "the memory of man runneth not to the contrary." It is established to serve the public; it is granted its franchise because of public necessity and convenience. It has certain privileges, such as exercise of the law of eminent domain, which are forbidden to strictly private enterprises. It is usually granted a monopolistic franchise, another recognition of public interest, as the monopolistic utility is able to render more efficient and more economical service. And in further recognition of its public character, it is limited by law in the duration of its franchise, it is usually regulated as to its rates, its earnings, and its expenditures, and it is under constant scrutiny to guarantee complete pro-

tection of public welfare. In return the utility is allowed a fair return upon its capital investment.

No institution is so unhappily open to political attack as the ordinary privately owned public utility. Demagogues, certain types of politicians, and the radical press alike may assail it, denounce it, charge it with responsibility for all the sins wherewith the face of the community is blackened. There is somehow something impersonal in such an attack, which is not aimed directly at the head of any individual.

#### The Story Behind the Figures

Unfortunately too many people take literally the legal maxim that a corporation, being an artificial person created by law, is without a soul. Even the head of the corporation is merely damned by inference as the highly-paid tool of some sinister influence that keeps itself under cover. The particular utility may be actually earning less than a fair return, which often is the case; but reports of its earnings are told in round and tremendous figures, and not in the 7 per cent payment to the small investor. People think of its millions; never of the aged couple whose life savings of a few thousand dollars are invested in its stock. It is usually the biggest institution in the community; it reaches far, touches the daily life of everybody in the community, and so seems bigger even than it really is. To many of the unthinking—or perhaps we should say the uninformed—the utility represents amassed wealth; it is to them the visible, living, breathing, grinding, devastating evidence of that enemy of freedom and democracy, the Money Power, which seems to be something entirely different from the power of money. When another issue is lacking, and it usually is with the politician of limited mentality, he always assails the utility; when news is scarce and interest in editorial wit and wisdom is languishing, the rabble-rousing publisher starts a crusade against the utility. Its monopoly in the rendering of an essential and regulated service is seemingly a far greater public menace than his own unrestricted monopoly of editorial opinion.

#### Modern Utility Seeks Right Course

Let it not be thought that herein the utilities are heralded as lily-white or that any halos are placed around their heads. They have been guilty of many sins of both commission and omission. If they no longer sin, they may at least be expected to make mistakes, for after all the corporative mind is a collection of individual minds, which means the human element enters into its conduct. And any human institution is bound to make mistakes. But the modern utility tries hard to pursue the right course.

If there was a time when it was hated by the public, there was a time too when that hatred was not entirely undeserved. In fact, the evolution of the present understanding of the utility's duty to its

community is sufficiently recent to be within the experience of the majority of utility employees. Perhaps the understanding has existed always; but not always have utility men been permitted to do what they knew was right, nor were they inclined always to turn the other cheek to an unappreciative and suspicious public. They were misunderstood, and were resentful. That resentment was manifest in a "public-be-damned" attitude, in the aloofness of the higher-ups, and in the indifference and discourtesy of the employees down the line. But eventually came recognition of the public's right. With it came as something of a revelation the thought that if effort were made, if proper knowledge were disseminated, misunderstandings could be explained away. There started the real work of establishing satisfactory public relations, which means after all merely the creating of good will.

#### Customer Ownership No Substitute for Service

Customer ownership was born of the utilities' need of money and in recognition of the right of "public ownership of utilities" in its true sense, which is ownership by individuals who desired to become partners. It has been to some extent the salvation of financing since big money went hunting tax-exempt investment or opportunity with more hazard and possibly greater return. And it has been the bone and sinew of public relations, when behind it there has been the lifeblood of adequate, satisfactory service. Patently there is an easy and presumably friendly contact between the utility and a stockholder. That contact should be of a personal character if the stockholder is a customer. But if it is to be friendly and satisfactory contact he must be a satisfied customer. He must be convinced that the power company, for instance, in which he is an owner, is giving just as efficient service as any other power company in the world, and that it is rendering that service with the greatest possible economy. He must be proud of the company, so that he will be proud to be a stockholder. If he is not a satisfied customer, mere ownership of stock is not going to make him a friend.

After all, the success of customer ownership aside from financing is predicated upon service. If the utility serves its customers satisfactorily, and courteously, and if it impresses upon them that it is a human institution rather than a merely efficient machine, it will find customer ownership the second best step in promoting satisfactorily public relations. It is to be taken for granted that this is an obvious thought, and that our utilities today—certainly it is the case in the electrical industry—are striving earnestly to render service as perfect as human limitations will allow.

#### From Wall Street to Main Street

In discussing the significance of customer ownership and speculating upon its future influence on the

industry, one can scarcely be expected to develop any radically new ideas. The best minds of the utility industries have assiduously studied the subject from almost every conceivable angle over many years. The experience of all the utilities is virtually the same, and while there may be difference of opinion as to the best methods of placing stock in the customers' hands, there is no difference as to the benefits that have accrued. Only a few years ago practically all the stock in utilities was held by a few men of great wealth. Today, as the result of the customer ownership movement, it is estimated that owners of all the gas, electric railway, and light and power utilities in the country exceed 2,000,000 in number.

Definite statement is made that 185 companies reporting to the National Electric Light Association sold 5,047,407 shares to 652,900 stockholders through customer ownership campaigns from 1914 through to the beginning of 1924. These stockholders are scattered all over the country, in the cities, in the villages, on the farms. To quote a happy phrase recently used, "Ownership of America's utilities has passed from Wall Street to Main Street."

#### All Kinds of Owners

This National Electric Light Association report shows each stockholder's average number of shares as 7.7. The utility stock purchase is obviously appealing to the small investor. In looking over the 1923-24 customer ownership campaign reports of my own organization, the San Joaquin Light and Power Corporation of California, I find some interesting sidelights in the segregated vocational list of shareholders. Among 6413 new stockholders obtained in this campaign, but three are listed as capitalists and sixteen as bankers. Against this there are 415 clerks, 42 carpenters, 237 farmers, 50 contractors, 18 janitors, 33 druggists and drug clerks, 186 laborers, 212 merchants, 113 stenographers, 134 school teachers, 26 telephone operators, 63 nurses, 28 waiters and waitresses, and so on down through a long list of wage earners.

Even more significant of the popularity of our stock with the small investor is the inclusion in the list of 1156 housewives and 1037 minors, nearly all from the homes of wage earners and small merchants. These people have had to make small investments, and many of them have bought on an easy payment plan. Their incomes are small but sure; and their savings are small but certain. They are typical of the great conservative American majority, and they safeguard their savings by investing in a security they know is sound.

#### Present Significance of Movement

The present significance of customer ownership has application to three factors of utility relationship:

1. The Customer.
2. The Employee.
3. The Utility itself.

The customer primarily buys for an investment. Almost invariably, and usually unconsciously, he takes a new interest in the utility and its affairs. His dividend checks come as symbols of his ownership; the company is his company; he is proud of its growth and accomplishments. Through publicity work that has been carried on in recent years by the electric light and power companies he learns something of the doctrine of self-interest—a business interpretation of the old slogan of reciprocity, "you scratch my back and I'll scratch yours."

This doctrine of self-interest lays stress upon the value to the individual of every dollar invested by business. The electric corporations have figured out the increase in community wealth represented by every extension. This extension means a new house or a new business or a new farm development. And each of these represents work for the carpenter, the plumber, the mason, the painter; and each represents more dollars in circulation in the general channels of trade. In other words, the investor recognizes that, in addition to getting his dividends, he is making a contribution to the promotion of prosperity in which he will share. He becomes a valuable partner, defending the company when acquaintances assail it, boasting sometimes of its accomplishments, reporting to it when he hears criticism of its service.

He is too a political asset. His ownership carries responsibility, and knowledge of business and its relation to general business are necessarily thrust upon his attention. And with such knowledge our customer owner is a better citizen and more likely to use his vote intelligently. In two campaigns in which certain political theorists of radical tendencies have attempted to launch the State of California into a socialistic half-billion dollar experiment in water power development, the 150,000 owners of California utility securities were the great factor in its overwhelming defeat.

#### Employees as Stock Owners

In this paper so far, I have dealt with customer ownership and not with employee ownership. Yet the sale of stock to customers and employees has run hand in hand. Utility companies have generally offered employees opportunity to buy stock before extending the same offer to the public. They have made exceptionally easy terms, and results have been amazing. Citing my own company's experience again, we offered our employees a chance to buy stock early in 1923. Within two weeks after the offer was made, 98.5 per cent of our regular employees had subscribed. Our experience is in line with that of the majority of other companies. The employee who owns stock has a different point of view. He is working for himself, and like the cus-



tomor owner he has pride in the institution and its accomplishments. He seeks to make friends for the company, and he becomes an earnest promoter of good will.

#### The Good Results

I am sure any company executive will agree with me that greater interest in their work and in consequence greatly increased efficiency has followed closely upon the taking in of employees as partners.

Two years ago we organized an educational course for employees, a brief series of lectures and readings to give a grounding in company policy, elementary electricity, rate rules and regulations, and other subjects connected with the business. About thirty took this course, and several of these took it upon the suggestion of their department head. Recently we decided to conduct this course again and broadcast an invitation to participate. So many applications were received that restrictions had to be made and many of those thirsting for knowledge eliminated for the time being. Even with the elimination made the course is now being taken by 625 men and women from the rank and file of the organization, nearly all of them stockholders. It is to the fact of their stockholding that I attribute in great measure this manifestation of interest in the company's affairs. To this same fact also do I attribute the success we have achieved in selling stock through employees. The employee stockholder is an enthusiastic salesman.

#### Customers' Ownership Effect on Utility

As to the company itself, its reactions from customer ownership are many. To begin with, its life is pleasanter. It meets smiles where it once met only frowns. It exists in a friendlier atmosphere, and it has a chance to be friendlier on its own account. It can talk frankly and openly about itself, and get a considerate hearing, for it is talking to an audience comprised largely of its owners. This change in public attitude has wrought a change in the attitude of the utilities; they have an incentive to give better and more courteous service and they are spurred to

effort to merit a constantly increasing good will. I believe it can be said in all truth that out of the good will customer ownership has developed, the utilities themselves have acquired a new understanding of public rights and an increased respect for public opinion.

Employees, from executives down the line, are affected in their work. They have to be up and doing. Their job is not to earn dividends for distant Wall Street, but to earn for their intimate Main Street. The Toms, Dicks and Harrys whom they fraternize with at the Rotary Club are among their employers and they have a right to be critical. Customer ownership has added to their responsibility for good service and sound financing.

#### Future of Customer Ownership

The future influence of customer ownership is as obvious as can be anything that is essentially of tomorrow. It is growing—each year is adding thousands of new stockholders. It is tapping a broad and almost inexhaustible reservoir of capital, much of which would not be reached through the customary investment banking channels. It is offering a direct and vigorous appeal to the American sense of thrift, and that appeal is to the wage earner, the salaried man or woman, the small merchant, the farmers, the widow with a moderate estate, the old couple seeking an income from their life's savings.

It is an appeal to the bulk of American citizens. Out of it there should develop, if the utilities themselves continue their effort to give adequate service and through their personnel to maintain human contact, complete good will and understanding. There should come a strengthening of the American policy of private initiative and the rewarding of it. There should come a national sentiment which will relegate into the oblivion of forgotten folly the fetish of public ownership. And at the same time there should come a new species of complete ownership by the public—an ownership that rewards private initiative and private capital, that is open to all people, and that is free from political influence, direction or possible corruption.

### Municipal Plants in Illinois Cut Small Figure

THAT Illinois possesses what are "probably the greatest electric light and power facilities per capita of any state in the Union" and that the total horsepower of all electric light and power plants operated by Illinois municipalities, even when the capacity of the Chicago Sanitary District and park boards' plants is included, is only a few hundred horsepower in excess of the capacity of any one of three recently installed generating units of the Com-

monwealth Edison Company, are two of the statements of fact contained in a pamphlet on "The Electricity Supply of Illinois," just issued by the Illinois Committee on Public Utility Information.

The publication gives a list of 108 discontinued municipal plants or electric businesses. One or more such businesses still exist in thirty-nine counties, but among the seventy most populous cities of the State Peru is the only one which provides the entire electric facilities for the community and Springfield is the only one possessing generating capacity above 1800 kw.

# PUBLIC UTILITY PRIZE CONTEST

ONE of the reasons that the Public Utility Industry has advanced so rapidly during the past few years is the unselfish action of organizations in sharing their successful experiences with one another.

The establishing of proper relations between the Utility and the community it serves, is now of paramount importance. During the past two years FORBES has carried on contests in cooperation with the N. E. L. A.,

members in which the public have been invited to participate.

This year we propose to carry on a contest for the member companies themselves and award prizes for the best data and exhibits submitted. All exhibits and papers must be in our offices, 120 Fifth Avenue, New York, on or before May 1st, the day the contest closes. FORBES MAGAZINE proposes to make the award at the N. E. L. A. Convention in San Francisco, June 15th. FORBES will bring the three prize winning exhibits to San Francisco and as many others of the next best as is practical.

## THE JUDGES

BRUCE BARTON  
*Barton, Durstine & Osborn*

THOMAS F. LOGAN  
*Thomas F. Logan, Inc.*

PHILIP THOMSON  
*Publicity Manager, Western  
Electric Co.*

B. C. FORBES  
*Editor, Forbes Magazine*

LOUIS WILEY  
*New York Times*

M. C. ROBBINS  
*Advertising Fortnightly*

ROY DICKINSON  
*Printers' Ink*

## CONTEST

*Opens MARCH 1ST*

*Closes MAY 1ST  
in New York*

*Award June 15th  
N.E.L.A. Convention  
San Francisco, Cal.*

## The award will be given for

the most constructive public relations campaign carried on by a light and power company in a local territory during the past year.

### Data Submitted:

- A. Plan of campaign and how conducted.
- B. Exhibits of all types of advertising and literature used.
- C. Record of achievement as indicated by customer ownership results, increased use of appliances, increased sales of light and power.
- D. Data indicating growth of good will.

THE JUDGES are recognized advertising men who have some knowledge of the problems of the light and power industry, but who are not doing local territory work.

THE CONTEST opens on March first. There are to be three awards, the winner, in addition to receiving a certificate of award, will be presented with a handsome cup. Appropriately engraved certificates awarding second and third prizes will be given to the two next best exhibitors. Members of the National Electric Light Association are urged to enter this contest. It offers an opportunity of independent appraisal of the best ideas and plans that have been worked out by the industry up to this time.

# FORBES MAGAZINE

120 FIFTH AVENUE NEW YORK

*If further information is required write for details.*



# Notes on the Coming 48th N.E.L.A Convention San Francisco, June 15-19

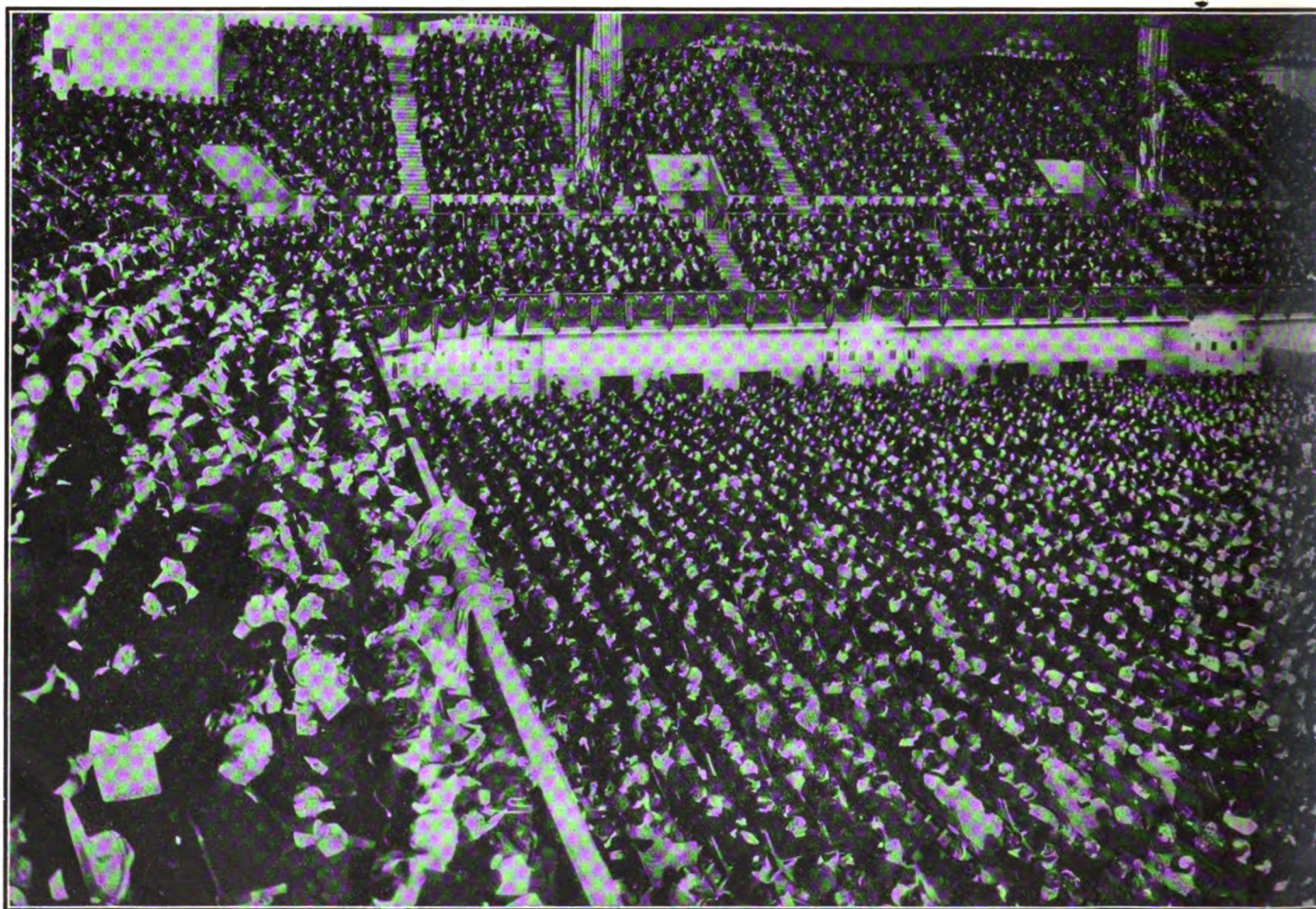
By FREDERICK S. MYRTLE  
*Chairman, Convention Publicity Committee*

**P**REPARATIONS for the Forty-eighth N. E. L. A. Convention to be held this year in San Francisco during the week of June 15 are now in active progress. The Executive Committee of the General Convention Committee, under the leadership of Frank A. Leach, Jr., has held two meetings, the various working committees have been announced, their respective duties have been defined and they are already at work.

Of these committees the one carrying the greatest burden at the present time is the Hotel Committee, Chairman Carl Heise, whose duty it is to receive, accept and assign reservations. Hundreds of assignments have been made to date, and these include

some of the most prominent men in the electrical industry in this country.

We of the Pacific Coast are proud to note on the list of reservations such names as Owen D. Young, Chairman, Board of Directors of the General Electric Company and of recent fame as an associate of Vice-President Dawes on the Reparations Commission; Gerard Swope, President, General Electric Company; Martin J. Insull of Chicago; Matthew S. Sloan, President, Brooklyn Edison Company; Alex Dow, President, Detroit Edison Company; E. M. Herr, President Westinghouse Manufacturing Company and his associate, General Guy Tripp, Chairman of the Board of Directors of that institution;



MAIN HALL OF EXPOSITION AUDITORIUM, WHERE PUBLIC POLICY C



Harry Reid, President Interstate Public Service Company of Indianapolis; Thomas W. Martin, President, Alabama Power Company, and executive officers of that company. Reservations also have been secured for representatives of the Henry L. Doherty interests, and among the visitors will be President J. J. O'Brien and party representing the Byllesby concerns.

With these as a starter there is little question of the success of our 1925 Convention not only from the viewpoint of numbers but from that, also, of representative attendance. There is room for as many as care to undertake the journey from the Atlantic seaboard. When we reflect that in 1920 San Francisco took care of upward of seven thousand visitors to the Democratic National Convention held in the Western metropolis that year, there is but one message to send across the continent: "Come by all means; only, reserve early, for those who are first in the field stand the best chance of getting the best accommodation!"

All business sessions will be at the Exposition

Auditorium. The report of the Public Policy Committee of which Mr. Martin J. Insull is chairman, will be made a special occasion for Wednesday evening of Convention week, and as there is always a great turn-out on this occasion it has been arranged to use the great hall at the Auditorium for the purpose.

### A Great Public Servant

THE National Electric Light Association is one of the really great institutions of America, come to its greatness by the only path which, after all, leads to that goal—the path of service.

Bewildered by the wizardry of the fleeting wonders of today, one hardly dares to imagine what, with the work of such agencies, the next forty years will bring, but evidently one thing they will bring will be a consummation of the present steady progress toward a realization of the mutual interest that underlies and ought to actuate us in our dealings one with another—*Public Service Magazine*.

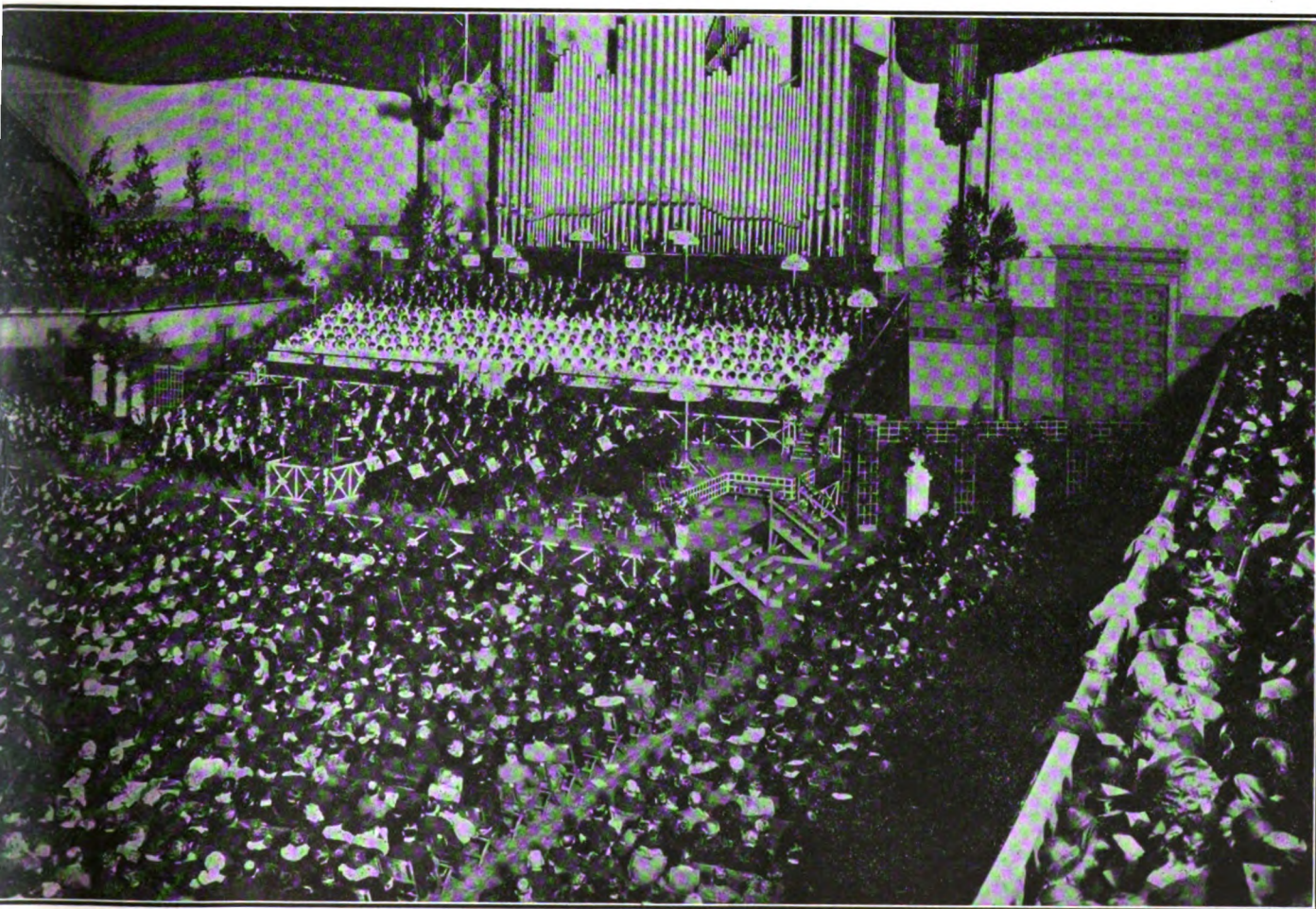


Photo courtesy San Francisco Convention and Tourist League

COMMITTEE MEETING WILL BE HELD, WEDNESDAY EVENING, JUNE 17TH



# Women and Public Utilities

By MAE FLETEMEYER

*Assistant to the Manager of Industrial Relations, Northern Indiana Gas and Electric Company, Hammond, Indiana*  
*An address at a meeting of Indiana Public Utility Association, Indianapolis, Indiana, January 22, 1925*

FOR a number of years our industry, like many others, regarded the public that it serves as wholly masculine and preceeded accordingly; as a matter of fact 75 per cent of our customers are women. In the last analysis women are our principal customers, they are the ones who use our service. When the burner is clogged, the service trapped or frozen, and the children are deprived of a hot breakfast before going to school, or, when dinner is spoiled for father or husband in the evening, then you have a real crisis in a woman's life—affairs of state are nothing in comparison.

It is through our women customers that we learn real conditions and actual facts regarding our service. They give us an opportunity to correct many of our shortcomings. Generally speaking, the woman in the home molds and formulates the judgment and honest conviction of the entire family group on any domestic matter. The logical conclusion then is that she *must* be satisfied. And why not? Is she not the chief engineer in the workshop of the home? Is she not "master of ceremonies" at all the social affairs to which our respective services contribute so much?

If we would secure the confidence and that much coveted good will of our women customers, we must teach them to know us. Those who are in a position to know best, those whose duties bring them in direct contact with our public, emphatically state that there is a profound lack of understanding as to the inner workings of our companies, not only among our women customers, but among the men as well. An educational program would do much to correct this. To begin with, I believe we can all afford to discontinue the use of our technical terms in dealing with our customers. The average woman does not understand our technical language. It either means nothing at all to her, it gives her a wrong impression or frightens her.

## Technical Phraseology Should Be Abolished

Not long ago, I was talking to a woman regarding a service bill and I referred to the meter reading, quite unthinkingly, as the "index." She said, "Index! what do you mean?" I pointed out that I was talking about the reading of the meter. She replied, "Then why didn't you say so in the first place?"

It would be difficult, of course, to standardize our industrial phraseology, but I do think that every local manager should try to translate technical terms into local, homely phrases, to suit his particular district.

For instance, it is very confusing to a woman to talk to her about cubic feet and K.W.H. unless their value in dollars and cents is also expressed. Also, women do not understand anything about B.t.u.'s, yet they do know something about units of heat.

It has been suggested that "Delinquent Bill" might be changed to "Past Due Bill. "Delinquent" is an obnoxious term anyway; and as for the word "Consumption," it could be so well expressed by a little word of three letters that begins with "U" and ends with "E," and it isn't necessary to have a college degree in Cross Word Puzzle Engineering to know what it is. Our advertising manager tells me that in our company's advertising copy he never refers to an electric washing machine; instead he uses "clothes washer," his reason being that women are instinctively scared of the word "machine."

## Situations Calling for Tact

Lack of our acquaintance often leads to situations that have to be very tactfully and delicately handled. Injured feelings are bound to arise when a family has moved into a new home and has to wait two or three more weeks before service can be supplied. It is difficult, it seems, for our customers, and particularly our women customers, to appreciate that where no main line exists in the immediate neighborhood that a preliminary estimate has to be made to show the approximate cost of running the service and the amount of revenue likely to be derived therefrom. Women are not interested in preliminary estimates. What they want is service, and yet it has been my personal experience that when they know and when they understand, they are always fair and always reasonable.

Occasionally there are unnecessary calls. A woman called up our office one day saying there was a bad gas leak in the basement that required immediate attention. She said she would open all the windows and she could be found next door. A man was sent out at once. He came back with the report that the only gas leak he could find was a bottle of "varnish" from which the cork had been removed and which the man of the house had carelessly forgotten to replace.

Taking into consideration the fact that the larger percentage of our customers are women, the question arises, who can deal with them best—men or women? Will they unfold more to another woman? Yes, especially in the case of a public utility where the women employees can, with little trouble, visualize their trouble or pressing need, they will. Too, women are inherently more sympathetic than men

and will lend a listening ear to all the troubles that are confided in them. A certain gas man made the statement that women cannot handle complaints as effectively as men because they are too sympathetic. I am sorry to disagree with that man. I think that one of the greatest problems we have is to get someone who will be sympathetic enough. However, it is not my intention to say that women are the only people to meet the public, nor that men are unfitted either. It resolves itself into a question of personality and personnel, with women perhaps better qualified by nature to undertake the task.

That women are interested in their public utilities was very clearly brought out in the recent Better Home Lighting Contest sponsored by the electric industry. It was my privilege to read several of the essays submitted by the children. Reference after reference was made to "mother," and how well-planned electric service could make things easier and better for her in the home. Mother was the predominating personality behind every essay, I read.

#### Women's Clubs

Today in the State of Indiana there are 30,000 federated club women, representing 250 Indiana communities, to say nothing of clubs and societies that are not affiliated with the federated group. This is an indication that women are keenly interested in matters appertaining to their welfare. Is there anything more vital to their welfare than the services rendered by our Indiana utilities? What these women need is a full enlightenment by a well informed member of their own sex. The benefit and importance of this can best be realized by an article that came to my attention a few days ago: An important meeting of a woman's club was in session in one of the larger cities. This meeting had been called to consider some questions vital to the community's welfare. Foremost among the issues was an increase in rates applied for by the local company and during the argument the company was referred to as a "heartless corporation." One of the women of our industry was present. She believed strongly in her company. She asked for permission to talk, from which I quote the following:

"I do not believe there is one among you this afternoon who would wish to turn again to the tallow candle or kerosene lamp for your light, nor walk the street with a lantern in your hand to help direct your steps in the dark. The electric lights on the corner are your real guardians. They protect you from injury and insult. You feel perfectly secure, though alone, if you are within range of one of them, for evil in any form seeks the dark places in which to perform its nefarious work." Then she pointed out the accruing benefit of modern electric street car transportation and telephone. "Now I come to a very interesting subject," she continued, "for it pertains to a problem which the women of

America are facing today—the servant problem. Each of you has had trying experiences in keeping a competent cook, laundress or maid and often after a fruitless effort to secure help, has had to do the work herself. The mother of a family knows how necessary it is to conserve her strength, for it is a duty she owes her husband and children to be able to greet them with a smile on their return home and a duty she owes herself to retain her youth and beauty as long as possible."

The attitude of that entire meeting changed. Many of those women frankly admitted that they had never thought of the company in such terms before, and to confirm their sincerity, many of them subscribed for that company's Class A Preferred Stock, and no further opposition to the rate increase was experienced from the members of that club anyway.

#### Teach Public to Know Us

I can't help but feel that one of our deepest needs at the present time is a program of education that will teach our public to know us, to understand us and to become better acquainted with us. The Women's Public Information Committee, to which this meeting needs no introduction, is doing splendid educational work, but I do not believe that the great work of educating our public in utility affairs will be complete until it starts with the growing generation, the future users of utility service and tomorrow's citizens. The suggestion was made at the State convention of the Indiana Electric Light Association at French Lick last September that a simple course in public utilities be made a part of the regular grade school curriculum. No stone should be left unturned toward bringing this about.

While there is so much work for us to do, yet after all, this is a great day and age. Life was never more enjoyable. Our public service companies, gas, electric, water, heat, street cars and telephone are bringing into our homes conveniences, comforts and labor saving means that were unknown even a generation ago. The women in our American homes are the great beneficiaries. You are the men who have made it possible for them to take a breathing spell, at least, from their exacting household duties—and think; and what is more logical for them to think about than the subjects that concern them most—home, husband, children—public utility service?

There is a more progressive spirit everywhere. Woman, once kept in the background when physical strength was the measure of a being's worth, has now thrown aside those unnatural restrictions of other days and is taking a greater and more responsible position in the vast world of commerce. She brings with her a refining influence and a new viewpoint that offers much of value. As for the public utility business, there is an important place for woman to fill, and none is more important than telling other women the public utility story.

# The Value of the Company Library

By ALMA C. MITCHELL

*Librarian, Public Service Corporation of New Jersey*

**A**N early conception of a library was that it should serve as a repository for books, pamphlets, magazines, etc., which should be properly classified, indexed and filed until called for. The librarian was merely the custodian of this material, and was looked upon as one having a very easy time of it. Today that conception has entirely vanished, and among the various types of libraries which have come into being is the business or company library. The librarian, instead of having an easy time of it, should be one of the busiest individuals in the organization, because in a special sense he or she is the one person who should have an all-round understanding of the problems of the business.

Officials in public utility companies throughout the country are realizing the value of an information bureau established within their own organizations. Through the means of such a library, executives and department heads are furnished with printed information of importance bearing on the problems of their particular line of work. This is done in various ways; in some libraries a daily bulletin is issued by the librarian, listing rate changes, new incorporations, current market prices, labor conditions, commission rulings, court decisions, new constructions projects, etc., as appear from day to day in the technical journals and financial newspapers. Others issue daily, weekly or bi-monthly lists of books and magazine articles giving brief abstracts of each.

The librarian in daily reviewing the material which comes to his or her desk, has a better opportunity of noting new experiments and investigations than the busy departmental executive. He is not so apt to know that embodied in a few obscurely hidden paragraphs is the new principle or solution for which he has searched in vain. It is the duty of the trained librarian to bring these inconspicuous items to his attention.

## **Time Saving for Busy Executives**

Another reason for being for the company library is the time saved by the business man or engineer in searching for data along various lines. Public utilities and business houses have found that it is cheaper to organize a library department to do their research work for them, than it is for them to take their own time or the time of their department heads to search for information which often ends unsatisfactorily, simply because they have not on hand the necessary tools. More than one incident can be cited where considerable time has been spent needlessly when the librarian, if there had been one,

could have undoubtedly produced the information from within his or her own files. The following examples very concretely bring out this point. A well-known scientist was recently saved from an extended investigation into the accuracy of a law which he believed had not been verified in approximately fifteen years, by having his librarian hand him an article which had been published within six months, describing an elaborate study made abroad which apparently settled the question.

A financial house in the Middle West found it necessary one day to communicate with the experimental laboratory of Alexander Graham Bell in Nova Scotia. There are no directories giving this information, but through the means of a business library the address was procured within an hour. The following is an example for time lost when not consulting the company library first. A busy executive needed certain accurate figures in compiling a report which had to be in at a certain time. Instead of calling his own librarian, he practically wasted two weeks in searching for this data elsewhere. Finally, on the afternoon before the report was due, he turned the question over to his own library. The figures were in his hands before he went home that night, whereas, if he had consulted his librarian in the first place he would have saved himself two weeks' wasted time and energy. Another example of this kind is brought out by a member of a technical concern who packed his grip, spent two weeks in a distant city and came back triumphantly bearing three documents containing certain valuable data needed for a certain technical problem, only to find later that these documents were on file in his own library. Nowadays in that organization there is a standing rule that the company library be consulted first.

## **For the Employee**

The company library has another mission, than that of purely research work, which is to supply reading matter for the education and recreation of employees. In many companies the library is used as a reading room at noon, and suitable books and magazines are supplied for this purpose. Reading lists are compiled upon request by the librarian, and when educational classes are conducted the books and other material needed are loaned through the library. Those taking outside courses at night are often considerably helped by the librarian securing for them through other sources the books required to be read in conjunction with their studies.

The value of the company library is hampered, however, if those responsible for its creation do not



cooperate fully with the librarian. In spite of the fact that the status of the librarian has greatly improved since the time when he was merely a custodian of books, there is still considerable room for improvement. The executive, engineer and employee have yet to be educated up to the full value of the business library, and the librarian must not place his profession before the industry. He who says, "I am a librarian, not an engineer," is capable of raising barriers which will greatly interfere with the cooperation which is so vital in any organization. Many executives think that when a trained librarian has been engaged and the library organized, that that is all that is necessary, and the rest is up to the librarian. Nothing could be further from the truth, it is only when the executive, department head, engineer and employee make of the librarian a confidant, as to what their information needs are, that he can grasp and comprehend the needs of the company for which he is working. It is only in this way that efficient and effective service can be rendered.

The business librarian is not a mind reader, and although he learns considerably through observation and the proverbial sixth sense, he cannot through any imaginary process know that a certain construction project is being contemplated unless he is taken into the confidence of those planning for it. One large bank has the librarian read the daily mail. In this way she is kept well informed of what will be required of her. And when information is requested she has it on hand. In other companies the librarian is asked to attend conferences of department heads or to be present at section meetings throughout the organization. As Miss Louise B. Krause, librarian of H. M. Byllesby & Company, Chicago, so aptly puts it in her book, "Better business libraries," "The business library cannot adequately function without the complete confidence and cooperation of the executives of the organization."

If this is true within the organization, cannot it be equally true between the engineering profession and the profession of librarianship. There are the American Library Association, within which certain round tables are devoted to corresponding enterprises such as the Agricultural Round Table, Business Round Table, etc., and a Special Libraries Association whose membership is composed chiefly of business, and other specialized, librarians.

In the engineering field there are the National Electric Light Association, the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Institute of Architects, the American Institute of Electrical Engineers, the American Gas Association, the American Electric Railway Association, and numerous others. But there is not any group or section within these representative associations, whereby both engineers and

librarians can get together and discuss those subjects which are of interest and of benefit to them both.

Within the National Electric Light Association there are committees such as the Lamp Committee, Filing and Preservation of Records Committee, Transportation Committee, Customer-Ownership Committee, Women's Public Information Committee, Meter Committee and many others. Why not a Library Committee?

#### For a Library Exhibit

What the engineer and executive need above everything else is a better knowledge of what the company library can do for them individually and collectively, and the librarian needs to gain a broader viewpoint of the work undertaken and contemplated by the business world and engineering profession. One of the functions of this committee might be the planning of a library exhibit at one of the annual conventions of the Engineering Associations. The National Safety Council has such an exhibit each year which brings before its members the activities of the Library and Information Bureau. A paragraph taken from the November, 1924, issue of "Special Libraries" will give an idea of the extent of such an exhibit. "Over 2000 delegates attending the National Safety Council Annual Congress at Louisville, Ky., Sept. 29 to Oct. 3, 1924, visited the Library and Information booth, brought their accident problems for solution and saw in a concrete way the activities of the library. This was the sixth year that the library had maintained an exhibit at the Annual Congress. The exhibit graphically portrayed recent developments in the field of accident prevention, industrial health and hygiene and allied subjects. Over 75 research requests were looked up for members. If the information was not at hand the request was brought back to headquarters in Chicago for investigation." A similar exhibit was undertaken by the financial libraries at the October, 1924, convention of the American Bankers' Association. A full account of this exhibit is given in the November issue of "Special Libraries."

In conclusion, let me say that the best way for business houses and public utilities to keep in touch with modern thought and problems is through the establishment of company libraries. If, however, these libraries are not organized with intelligence and administered efficiently, they cannot live in a business organization. Something is vitally wrong if the library is the first item to be cut from the budget. It should be the money saving department of the organization.

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The Bureau of Power & Light, City of Los Angeles, has placed an order for five new electric trucks, bringing its fleet to a total of 17.

# Bonbright & Company and American Superpower Corporation to Award \$20,000 for Power and Light Surveys

**A**WARDS totaling \$20,000 in cash, offered by Bonbright & Company and American Superpower Corporation, for contemporary surveys of the electric light and power industry in the form of reviews summarizing the progress made and to be expected in the industry from 1920 to 1930 are announced by the above utility organizations. Announcements of winners of the Bonbright & Company awards will be made at the N. E. L. A. Convention at San Francisco in June if decisions have been completed by that date.

Two distinct awards are being offered. The initial award known as the "Bonbright Prize" will embrace distributions to be made in June, 1925, as follows: \$5,000 for the paper judged to be the best review and forecast of power and light operations, tracing the modifications and improvements in the generation, distribution and merchandising of electricity as well as an outline of the progress made in such phases of the industry as public relations and financing methods; \$1,000 for the second best work; \$500 for the third best; ten prizes each amounting to \$250; and ten prizes each amounting to \$100. The second award is being made by The American Superpower Corporation and will result in payment of \$10,000 to one of the contestants after Jan. 1, 1930.

Awards are so arranged that one contestant may win a maximum of \$15,000.

While the "Bonbright" awards will be based upon consideration of surveys which in effect must include a five years' review of the industry and a year's fore-

cast of developments, the "American Superpower" award is to be made wholly on the basis of the accuracy of the prophecies made in the surveys. An explanation of the "American Superpower" awards states, "The Board fully realizes the fact that to estimate the relative merit of varying forecasts is fraught with difficulty. With this in mind, and in order that more complete justice may be given to the competitor whose prophecies prove most accurate, it has authorized the additional prize of \$10,000 in the name of the American Superpower Corporation to be awarded to that contestant whose papers, reviewed again in 1930, shall appear to have most nearly approximated the facts as they eventuate. This prize will be awarded as shortly after Jan. 1, 1930, as is possible."

The competition is stated to be for the purpose of obtaining the views of independent observers as well as of leaders in the executive, engineering and educational branches of the industry, in the belief that a crystallization of such views will develop constructive analysis of real value to the industry.

The competition, it is announced, is open to all except the board of judges.

The board of judges who will make the awards will be composed of: B. C. Cobb, president Consumers Power Company; W. M. Flook, president The Tennessee Electric Power Company; George E. Hardy, president Commonwealth Power Corporation; Frank T. Hulswit, president United Light and Power Company; Alfred L. Loomis, vice-president Bon-

## Announcing—

## THE BONBRIGHT PRIZE

and THE AWARD of

The American Superpower Corporation



**T**HESE prizes, amounting to a total of \$20,000, are to be awarded for the best contemporary reviews and forecasts of the electric light and power industry, to be written in the form of articles summarizing the progress of the decade 1920-1930, and dated as of January 1, 1930. The articles must be submitted on or before May 18, 1925.

### THE BONBRIGHT PRIZE

(To be presented June, 1925)

#### Twenty-three awards to be awarded as follows:

First Prize . . . . .	\$5000
Second Prize . . . . .	1000
Third Prize . . . . .	500
Ten Prizes, each . . . . .	250
Ten Prizes, each . . . . .	100

### The American Superpower Corp. Award

(To be presented January, 1930)

#### One Award of:

**\$10,000** for the article which, reviewed again in 1930, shall appear to have most nearly approximated the facts as they eventuate.

The Judges of the competition will be the Directors of The American Superpower Corporation. The competition is open to every one, with the sole exception of the Board of Judges. A "Data Book" of basic electric power and light statistics, as generally accepted in the industry, is available for contestants free upon request. For this and all other information relative to the competition, write to Van H. Cartmell, Secretary, c/o Bonbright & Co., Inc., 25 Nassau Street, New York City.

bright & Company, Inc.; Thomas N. McCarter, president Public Service Corporation of New Jersey; Sidney Z. Mitchell, president Electric Bond & Share Company; Randal Morgan, chairman executive and finance committee United Gas Improvement Company; William Spencer Murray, electrical engineer, originally identified with the electrification of the New York, New Haven & Hartford Railroad; George Roberts of Winthrop & Stimson, attorneys; Horace S. Scarritt, vice-president Bonbright & Company, Inc.; Richard Schaddelee, president Continental Gas Electric Corporation; Ray P. Stevens, president Republic Railway & Light Company; Henry L. Stimson, former Secretary of War; Landon K. Thorne, president Bonbright & Company, Inc., and Percy S. Young, vice-president Public Service Corporation of New Jersey.

#### REGULATIONS COVERING THE COMPETITION

It is the wish of the judges and donors of the \$20,000 in prizes, announces Bonbright & Company, that as much latitude as possible be given contestants and that the creative work necessary to the competition be as little circumscribed by regulation as is practical. A certain uniformity is essential, however, and the following rules will be observed:

1. *The competition is open to all except the Board of Judges.*
2. *The Judges of the competition will be the Directors of The American Superpower Corporation.*
3. *All papers must be submitted to Bonbright & Company, Inc., 25 Nassau Street, New York, N. Y., and received on or before May 18, 1925.*
4. *Articles must be in the English language, typewritten, and submitted on plain white paper.*
5. *Although no arbitrary rule as to length has been set, it is suggested that articles be confined within the limits of 5000 to 10,000 words.*
6. *Every article is to be signed with a fictitious name and accompanied by a sealed envelope containing both the nom de plume and the contestant's real name and address.*

7. *The article submitted may be a collaboration, the fictitious name selected representing two or more authors, the names and addresses of all such being included in the sealed envelope accompanying the manuscript. Should a prize-winning article be the result of collaboration the prize will be divided equally among the authors.*
8. *No single competitor, either alone or in collaboration, may submit more than one article.*
9. *The article may be accompanied by such supplementary material, in shape of charts, diagrams, etc., as may seem advisable to the contestant, although such additional material is in no sense obligatory.*
10. *If possible, the announcement of the \$10,000 1925 prizes will be made at the National Electric Light Association Convention in San Francisco during the third week of June.*
11. *All manuscripts will be preserved and again submitted for judgment on Jan. 1, 1930, and the announcement of the winner of the \$10,000 additional prize will be made as soon thereafter as possible.*
12. *All manuscripts will be carefully retained for review in 1930, but in no case will Bonbright & Co., Inc., nor the Board of Judges assume any responsibility therefor.*

A "Data Book" containing most generally accepted statistics on the industry at present and charts showing various trends of electrical progress has been prepared from information obtained from the National Electric Light Association, "The Electrical World," or from Government or other authoritative sources. Copies may be obtained without charge upon written application.

Requests for the Data Book as well as for any additional information regarding the competition should be addressed to Van H. Cartmell, care of Bonbright & Company, Inc., 25 Nassau Street, New York, N. Y.

### Courage

THERE is one property of the mind that stands out as the most helpful in overcoming the difficulties that beset man, and therefore the most desirable. It is Courage. The word is derived from the Latin for heart, from which come such compound words as lion-hearted, weak-hearted and good-hearted.

Courage manifests itself variously. There is the audacious fearlessness of a D'Artagnan or an Andrew Jackson on one hand, and on the other the undaunted fortitude of a Job, a Lincoln or the Christ. There are many unsung heroes and heroines

whose "bodies lie mouldering in the ground but whose spirits go marching on" in the busy masses of today, whence, occasionally, by some circumstance, they are projected to the attention of the multitude.

Courage that is seldom crowned with laurel or set to music is the courage to *try again*, the courage to *stick it out*, the courage to *tell the truth* when a lie would answer better, the courage not to admit final failure and (sometimes) the courage to just live. . . .

"Courage is the sanctuary to which a man may go when all other doors are closed against him." And don't forget, it can be acquired!—*B. & O. Magazine.*

## Brooklyn Edison's Prize Winning Final Chapter for Employees' Manual

**I**N December of last year, when the Brooklyn Edison Company distributed 6000 copies of the Employees' Manual to its employees, three prizes were offered by M. S. Sloan, president of the company, for a thirteenth or final chapter dealing with local conditions of the Brooklyn company. The contest closed February 15 and decisions have been made as to the winners of the prizes for the best written final chapter.

By unanimous vote the committee awarded the first prize of \$150 to Walter Measday, Jr., of the Auditing Department; second prize of \$75 to E. Whiting Evans, Research Bureau, Electrical Engineers' Department, and third prize of \$50 to W. H. Mactye, Auditing Department.

Papers were handed in from every department

in the company and all classes of workers from garage men to assistant heads of departments were represented in the contest.



Walter Measday, Jr.

The papers were judged on four counts, weighted to make a total of 100 points. Understanding of the industry as a whole counted thirty-five points, application to the local company, thirty points, method of handling and style, twenty-five points, and length of article, ten points.

F. B. Pitney, advertising manager of the Brooklyn Edison Company; George F. Oxley, director of public information, N. E. L. A., and Frederick W. Crone, director of the committee on public relations of the Empire State Gas and Electric Association, were appointed to read and judge the papers and award the prizes.

### YOU AND YOUR COMPANY

*Final Chapter Employees' Manual,  
Brooklyn Edison Co. Edition.*

By WALTER MEASDAY

We have discussed in the previous chapters the history, development and growth of the electric utility industry as a whole. We have spoken of the agitation for political ownership, and the overwhelming advantages that have accrued to the communities served by our industry under its present system of private ownership with public regulation. We have gone very much into your part as a member of the industry in creating a genuine confidence and respect on the part of the public toward us. In this chapter let us apply the discussion specifically to our own Company and your obligations to it.

#### History of the Company

The first electric service in Brooklyn was furnished by the Citizens and Municipal electric companies in 1885. Two years later the Edison Electric Illuminating Company was formed, subsequently acquiring the two older companies. In 1898 the Kings County Electric Light and Power Company purchased stock control of the Edison Company, and until 1919 the Kings County Company acted as a holding company, with the Edison Company serving as the operating company. In 1919 the name of the Kings County Company was

changed to Brooklyn Edison Company, Inc., into which was merged the Edison Company. Since then we have grown from an organization with a plant and property worth \$39,803,686.31, selling 218,977,825 kilowatt hours to 99,262 customers, to a company whose plant and property are now valued at \$111,902,125, and which sells a half billion kilowatt hours annually to over 500,000 customers. Truly a remarkable growth! The recent acquisition of the electric lines of the Flatbush Gas Company, with the exception of a small territory along Ocean Parkway, makes us the sole central station for Brooklyn.

#### Public Service for Brooklyn

We are, therefore, the electric service organization of Brooklyn, performing a service to the people of Brooklyn as public as that furnished by the schools, the police, or the fire department units. And you, as employees of this company, are as much the public servants of Brooklyn as are the city teachers, policemen and firemen. Your value to the borough and to the company, in your capacity as an electric utility employee, depends upon the loyalty, the courtesy, the tact, and the intelligence with which you discharge your duties.



### Cultivated Intelligence

The need for loyalty, courtesy and tact is well understood by our employees. Unless you have at heart the interests of Brooklyn and of this company, which is loyalty, you have no place in this organization. Unless you can deal with the public in contacts in person, over the telephone, and through correspondence, with courtesy and tact, you should seek your fortunes elsewhere. The need for intelligence is equally great. Recall the statement of Henry S. McKee, quoted in an early chapter, that of all the qualities mentioned, "the highest of these is cultivated intelligence."

### Reduction in Rates

A reporter representing a Brooklyn paper recently sought some material for an article on our business. "I suppose," he said, "that the price of your product, electric energy, has gone up along with the price of other commodities." Now, you as an intelligent member of the Company, could have told him that, strange to relate, the very contrary was the fact. You could have given as an instance the history of our maximum rate for residential lighting, which started with 20 cents a kilowatt hour in 1890, was 15 cents in 1905, 11 cents in 1914, 8 cents in 1924, and 7½ cents in 1925.

### Increased Efficiency

Again and again you will hear people here in Brooklyn state that they cannot understand why our rates are higher than the rates charged in certain communities they know of which are served by hydroelectric companies. As an intelligent employee you will be able to answer that, as we have no nearby water power available, Brooklyn can be served only by steam generated electric energy. Steam generated current is, of course, more expensive than hydroelectric current because of the price of coal, and so the rates are that much higher. You should know that our engineers are constantly studying methods of reducing the amount of coal needed. In 1921 it took 2.284 lb. of coal to produce one kilowatt of electricity. By 1924 this has been reduced to 1.82 pounds.

### Element of Distribution

Another inquiry honestly made is as to why our rate per kilowatt is so much higher than our comparatively low cost of generating a kilowatt. As an intelligent employee you would suggest that we would sell our current much more cheaply if our customers could call for our product at our generating stations. As they desire it delivered to their doors, however, we must charge them for service, which include the costs of maintaining transmission and distribution lines, sub-stations, meters and the like, to say nothing of our commercial expenses.

If you know these things, if you further know

that our methods and transactions are all subject to the closest scrutiny of the Public Service Commission, if you know the organization of the company, its functions, and personnel, then you possess that "cultivated intelligence," necessary in this business.

### Opportunities to Secure Knowledge

The opportunities to know these things are all about you. Complete courses of study are given by the company through its Bureau of Education. Every month the Brooklyn *Edison Topics* publishes a wide variety of information. Again, by reading the (public policy) advertisements of the company in the newspapers or on the bulletin boards, and the circulars distributed weekly with your pay envelopes, you can be familiar with our aims and purposes. The Brooklyn Edison Club, in its educational sections, conducts valuable discussions of utility problems.

Use these opportunities, and be in a position to defend your company from the misunderstandings you find in your own circle of friends; in your own lodge or club. You need not be noisily or offensively aggressive; merely intelligently and tactfully on the alert. This, with a courteous handling of the duties of your own job, will make you the valuable public servant that your borough and your company desire.

## Electricity Thief Punished: Assessed Heavy Penalty

**S**TEALING electricity has ceased to be a "joke" in Edwardsville, Ill. It recently became a decidedly serious matter for Joseph Lonie, a Wood River gasoline station proprietor.

Lonie was arraigned in Circuit Court on a charge of having installed a "jumper" which diverted electric current around, rather than through, his meter. He was permitted to plead guilty to a charge of fraud. Following his plea, here's what happened to him:

He was fined \$50 and costs.

He must pay the electric light company their estimate of what is due for the "stolen" electric current.

He must post a bond guaranteeing payment of his future light bills.

He must place a protective appliance on his motor.

Discovery of Lonie's fraud was made when his brilliantly lighted filling station failed to cause a commensurate meter reading.

Recent reports show that it has cost \$18 to mine a ton of coal that sold most of the time for \$10 a ton at the state owned and operated coal mines in the Philippines, a loss of \$8 a ton. The taxpayer makes up the \$8. Another example of government ownership and operation.

# Electrics in Bush Terminal Service Give Much Satisfaction

By W. L. STURGIS

*Mechanical Superintendent of Bush Terminal Co., New York City*

OVER 90 per cent of our hauling is done by electric trucks. Our twenty-five 5-ton machines yield a total annual saving of approximately \$35,000. Electrics also assure us the dependable service necessary in our work. The tenants in our factories are manufacturers of all kinds. By furnishing them with railway and shipping facilities we save them the cost of trucking their raw materials and finished product to and from the freight stations.

While not in the trucking business, we do the trucking for these 250 tenants and for about 2000 warehouse customers. We are also agents for ten railroad companies, and deliver goods for our factory and warehouse tenants direct from the railway cars to the tenant's floor. Our trucking may be classified as follows: Piers to factories, factories to local customers, warehouses to local customers, factories to piers, warehouses to piers, warehouses to factories, factories to warehouses, piers to warehouses.

The company is the largest concern of its kind in the world, having factories, warehouses, piers and other property covering 200 acres. Eight piers averaging 1350 feet in length and 150 feet in width, one double-deck pier containing 14 acres, 121 warehouses totaling 2,750,000 sq. ft., 5,000,000 sq. ft. of factory space housing 250 tenants, 25 miles of railroad track and 175 miles of fire alarm wires are

features which distinguish this prominent enterprise.

Most of our hauling is done within a limited radius. Newark, which is about 15 miles away, is the maximum point ordinarily reached. On account of the short hauls, heavy loads and congested traffic, we find that electric trucks are best suited for most of our hauling. In 1916 we purchased ten 5-ton electrics and seven months later 15 more of same rating. We also have two 6-ton gas trucks. The gas trucks are used when a haul is too long for an electric.

The chief advantage of the electrics is that, costing less to operate, they are laid up less, averaging 285 days' work a year. Most of the lost time is caused by lack of work. We must maintain trucks enough, however, to take care of our peak loads. When necessary an electric can run practically every day in the year, and we have actually worked one electric 303 days out of a possible 303. The electrics will last indefinitely, but we are writing them off in ten years. Mechanically they are nearly perfect, and serious troubles are rare.

We do our own garage work and charging. We paint the trucks as often as needed to keep them looking well—twice a year, if necessary—because we consider it a good advertisement to have 25 smart trucks traveling the streets with our name painted brightly on them.

## Use of Electric Trucks by Central Stations

THAT the public utilities are strong believers in the electric truck is evidenced by the number of electric light and power companies which use electrics every day of the year in their business.

In 1924 a new record was established by central stations in adopting the electric truck. Active truck sales organizations are found in Boston, Washington, New Orleans, New York, Philadelphia, Pittsburgh, Buffalo, Cleveland, Chicago, Denver, San Francisco and Los Angeles.

The following list was prepared by Mr. Charles R. Skinner, Jr., manager, Automobile Bureau, New York Edison Company, and shows utility companies which use electric trucks ranging from single trucks to fleets of above 200.

### List of Central Stations Using Electric Trucks

Edison Electric Illuminating Co. of Boston..Boston, Mass.  
Brooklyn Union Gas Co.....Brooklyn, N. Y.  
Iroquois Gas Co.....Buffalo, N. Y.  
Buffalo General Electric Co.....Buffalo, N. Y.  
Cambridge Electric Light Co.....Cambridge, Mass.

Canton Gas & Electric Co.....Canton, Ill.  
Delaware County Electric Co.....Chester, Pa.  
Public Service Co. of Northern Illinois.....Chicago, Ill.  
Commonwealth Edison Co.....Chicago, Ill.  
The Union Gas & Electric Co.....Cincinnati, Ohio  
Cleveland Electric Illuminating Co.....Cleveland, Ohio  
The Dayton Power & Light Co.....Dayton, Ohio  
Des Moines Electric Co.....Des Moines, Iowa  
Public Service Co. of Colorado.....Denver, Colo.  
The Detroit Edison Co.....Detroit, Mich.  
Elmira Water, Light & Railroad Co.....Elmira, N. Y.  
Erie County Electric Co.....Erie, Pa.  
San Joaquin Light & Power Co.....Fresno, Cal.  
Gary Heat, Light & Water Co.....Gary, Ind.  
Empire Gas & Electric Co.....Geneva, N. Y.  
Hartford Electric Light Co.....Hartford, Conn.  
Indianapolis Light, Heat & Power Co.....Indianapolis, Ind.  
Kansas City Power & Light Co.....Kansas City, Mo.  
Lakewood & Coast Electric Co.....Lakewood, N. J.  
New York & Queens Electric Light & Power Co.,  
Long Island City, N. Y.  
Malden & Melrose Gas Light Co.....Malden, Mass.  
Memphis Power & Light Co.....Memphis, Tenn.  
Meriden Electric Light & Power Co.....Meriden, Conn.  
Milwaukee Electric Railway & Light Co.....Milwaukee, Wis.  
The Minneapolis General Electric Co.....Minneapolis, Minn.  
Missoula Light & Power Co.....Missoula, Mont.  
Bureau of Power & Light.....Los Angeles, Cal.

Public Service Corporation of New Jersey...Newark, N. J.  
 Texan Power Co.....Dallas, Tex.  
 Great Western Power of California....San Francisco, Cal.  
 New Bedford Gas & Edison Light Co...New Bedford, Mass.  
 New Orleans Public Service, Inc.....New Orleans, La.



Late type of electric truck in use by New York Edison Company

The loading space is 8' 6" and it is 3' 8" wide and 4' 11" high. The inside of the body is lined with 4" slats for strengthening with a dome light inside with the switch under the driver's seat. Directly back of the driver is a folding door for access to the body from the driver's location. All hardware is nickel-plated.

The truck has a speed of approximately 15 to 16 miles and is capable of going 45 miles per charge. It is equipped with the customary Stone Cradle so that the battery may be removed entirely from the truck in two or three minutes' time, which permits a close inspection of the battery and if necessary a battery, fully charged, can be installed.

Mr. Charles R. Skinner, Jr., manager automobile bureau, New York Edison Co., states he will be glad to furnish any further details to any member company interested in this truck.

Consolidated Gas Co.....New York City  
 Astoria Light, Heat & Power Co.,  
 Astoria, Long Island, N. Y.  
 The Brooklyn Edison Co.....Brooklyn, N. Y.  
 New Amsterdam Gas Co.....New York City  
 The New York Edison Co.....New York City  
 Central Union Gas Co.....New York City  
 Standard Gas Co.....New York City  
 The United Electric Light & Power Co....New York City  
 Niagara Falls Electric Service Corp..Niagara Falls, N. Y.  
 Philadelphia Electric Co.....Philadelphia, Pa.  
 Duquesne Light Co.....Pittsburgh, Pa.  
 West Virginia & Maryland Power Co....Pittsburgh, Pa.  
 Narragansett Electric Lighting Co.....Providence, R. I.  
 Virginia Railway & Power Co.....Richmond, Va.  
 Rochester Gas & Electric Co.....Rochester, N. Y.  
 Utah Power & Light Co.....Salt Lake City, Utah  
 Pacific Gas & Electric Co.....San Francisco, Cal.  
 Savannah Electric & Power Co.....Savannah, Ga.  
 Puget Sound Traction, Light & Power Co.,  
 Seattle, Wash.  
 South Norwalk Electric Co.....South Norwalk, Conn.  
 The Washington Water Power Co.....Spokane, Wash.  
 United Electric Light Co.....Springfield, Mass.  
 Stamford Gas & Electric Co.....Stamford, Conn.  
 Staten Island Edison Corp.,  
 St. George, Staten Island, N. Y.  
 Western States Gas & Electric Co. of California,  
 Stockton, Cal.  
 Superior Water, Light & Power Co.....Superior, Wis.  
 Syracuse Lighting Co.....Syracuse, N. Y.  
 Tampa Electric Co.....Tampa, Fla.  
 Public Service Co. of Oklahoma.....Tulsa, Okla.  
 Utica Gas & Electric Co.....Utica, N. Y.  
 Potomac Electric Power Co.....Washington, D. C.  
 Northern New York Utilities Co.....Watertown, N. Y.  
 General Electric Co.....West Lynn, Mass.  
 Worcester Electric Light Co.....Worcester, Mass.  
 Edison Light & Power Co.....York, Pa.  
 The Toledo Edison Co.....Toledo, Ohio  
 Pensacola Electric Co.....Pensacola, Fla.

## Oil and Gas Engines

Oil and Gas Engines. Serial report of the Prime Movers Committee, Technical National Section, N. E. L. A. Published by N. E. L. A. Headquarters, 29 West 39th Street, New York. Price to members, 10c; to non-members, 15c.

**T**HE 2000-hp. Nordberg Diesel units of the Phelps Dodge Corporation still remain the largest Diesel engines in service, according to the report on Oil and Gas Engines just issued by the Prime Movers Committee.

Of those being built particular mention is made of the four-cylinder, 1250-hp. still engine for marine service. This engine has an unusual power system of the 2-stroke cycle and is double acting. Solid fuel is injected on head end of the four cylinders, which exhaust to a feed water heater and boiler. Thence steam goes to the crank end of one cylinder, exhaust to the crank end of the other cylinders in parallel (compound operation) and from there is exhausted into a turbine driving the scavenging blower for the head ends. The report states that these engines use 0.36 lb. of fuel per b.hp. hour.

Cost of operation of Diesel engine installations is stated in five tables and two sets of curves. A few conclusions easily gleaned from these are: An averaged production cost of 11.91 cents per kw. hour for four plants averaging 2785 kws. in capacity is

slightly higher than last year's figure. These figures are for American stations. Similar figures for thirty-one English stations are: 22,082 kws. capacity installed producing electric power at 18.59 cents per kw. hour.

A bibliography of matter pertaining to oil engines published during 1924 concludes the report.  
 —R. A. ANDREWS.

Sales of gasoline trucks last year showed a decrease of approximately 22,000, while the electric truck industry had one of the best years in its history.

The Brooklyn Edison Company, setting an example to its consumers to do it electrically, has just placed an order for 17 new two-ton trucks. A few months ago the Brooklyn Edison Company added five new electrics to its fleet.

**T**HE BRIDE (at the telephone): "Oh, John, do come home. I've mixed the plugs in some way. The radio is all covered with frost and the electric ice box is singing 'Way Out West in Kansas.'" —*Life*.

## "Swapping" Information About Electricity in the Pioneering Days

THE amount of data available today concerning electricity, generating apparatus, steam plants, turbines, appliances and all that pertains to the art, is practically unlimited. It is well nigh impossible to keep up with it.

How eagerly the old time electrical man would have welcomed this material. We still find electricity a mysterious force even today, but we know a great deal about what it will do. In those days, back in the 80's it was a different matter.

If someone had a bit of information concerning generating machinery which he had dug up for himself, it was not broadcast. On the contrary, it was "trading material."

It was carefully guarded and divulged only when some other information could be had in exchange. At least, Mr. G. A. Voorhees, who was in the game way back when many of us were not yet born, tells some very interesting things about early electrical progress, showing how the pioneers got their training.

"In the early days of electric lighting," says Mr. Voorhees, "the so-called expert was at a great disadvantage. We realize it when we look over the advantages accumulated during the past 25 years, in the manufacture of generating apparatus, steam equipment or appliances. We find the results of achievements in the form of printed data covering the design and efficiency of installation of the product in question.

"In the early days the men had little if any printed matter by which they could be guided, or which would serve as a permanent record for future reference. They would simply make a sketch of the project under consideration. This subject would be discussed with other experts, factory operators, erecting men and central station operators in order that he might obtain additional information in regard to apparatus. This information the expert would secure in exchange for some other information which the other fellow was desirous of securing but did not have available. In other words, it was a "swap" game.

"While operating as an engineer at the Lynn Electric Lighting Company's plant, having under my supervision the operation of the engines, generators and switchboard, it was the custom of the factory expert to come to the works and spend hours watching the operation of the plant. If he was a real good fellow with information to disclose, he was given an opportunity to take care of the oiling of the arc machine, to look after the hot boxes on both engines and machines and in this way he gained experience.

"The expert would often stay long enough to see the arc machines for commercial lighting shut down without cutting out the lamps. This was done by

connecting two machines in series, raising the regulator on the arc machine to be shut down and transferring the load to the other machine by the use of a cutter switchboard and plugging system. Those who are familiar with this type of installation of 10 or more arc machines will appreciate the work involved in running the wires to the plugs in front of the cutter switchboard. This involved a great tangle of wires, of course, and always seemed to puzzle the factory expert.

"If any company having a plant, sent for an expert to take care of trouble, it was always advisable to watch his moves, otherwise you would not be any wiser than before calling for his services.

"For example, if you had an arc machine operating in opposite direction from the standard machine, it was necessary in order to adjust the spark on the commutator to set it opposite from the way in which it was set on the standard machine. The expert might request you to shut down the machine, and while you were getting a screw driver or something, he would make the adjustment, and upon your return would ask you to start up the machine. The sparking on the commutator would be OK, and he would remark that everything was in proper working order and would leave without giving you any light on what he had done in the way of repairs.

"A few years later this was changed and books were printed, containing data and instructions relative to all kinds of generating apparatus or equipment."—*Central Hudson Bulletin*.

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### Initiative

THE world bestows its big prizes, both in money and honors, for but one thing. And that is *initiative*. What is initiative? I'll tell you: It is doing the right thing without being told. But next to doing the thing without being told is to do it when you are told once. That is to say, carry the message to Garcia; those who can carry a message get high honors, but their pay is not always in proportion. Next there are those who never do a thing until they are told twice; such get no honors and small pay. Next there are those who do the right thing only when necessity kicks them from behind, and these get indifference instead of honors, and a pittance for pay. This kind spends most of its time polishing a bench with a hard luck story. Still lower down in the scale than this we have the fellow who will not do the right thing, even when someone goes along to show him how and stays to see that he does it; he is always out of a job and receives the contempt he deserves unless he happens to have a rich Pa, in which case Destiny patiently awaits around the corner with a stuffed club.—*Elbert Hubbard*.



# Oklahoma Utilities Convention Breaks Attendance Record

**A**TENDANCE at the seventh annual convention of the Oklahoma Utilities Association, held in Oklahoma City March 10, 11 and 12, broke all records, reaching 660. Included in this number were 150 women. The registration last year was 600. Attendance at the banquet 357, which was about 100 more than last year. There were fourteen exhibitors and a large number of visitors in addition to public utility executives and employees from Oklahoma and several other States. The convention was a pronounced success from every standpoint and demonstrated the steady growth that the Association is making.

One of the most important results of the convention was the organization of a public relations division to be coordinated with the five other divisions of the Association. This new division will hold several meetings each year for the purpose of adopting uniform methods, as far as possible, of improving the public relations of utility companies and of working out plans to assist smaller companies that are not able to maintain public relation departments. The new division was approved by the Executive Board and by the convention, and chose temporary officers, subject to approval at a future meeting of the division. They are: Division Chairman, Geo. A. Davis, Oklahoma City, assistant to vice-president in charge of public relations, Oklahoma Gas & Electric Company; Keith Clevenger, Bartlesville, director public relations, The Empire Companies, member on Executive Board for three-year term; Harvey E. Rhodes, Oklahoma City, advertising manager, Southwestern Bell Telephone Company, member on Executive Board for two-year term; H. B. Cobban, Miami, general manager, Northeast Oklahoma Railroad Company, member on Executive Board for one-year term.

Among the speakers of national reputation in the industry were W. S. Vivian of Chicago, director public relations Middle West Utilities Company; E. Bentley Hamilton, Peoria, Ill., assistant general attorney Missouri Power & Light Company; J. F. Owens, Oklahoma City, president Southwestern Geographic Division, N.E.L.A.; W. R. G. Baker, Schenectady, N. Y., engineer radio department, General Electric Company, and Frank R. Coates, New York, director, Cities Service Company.

W. H. Hodge, President, Public Utilities Advertising Association, made an address on Public Utility Advertising. Mr. Hodge's paper will be abstracted in a later issue of the BULLETIN.

The light and power companies of the United States should voluntarily take up the problem of eliminating so far as possible interference by electric transmission lines with radio reception if they would retain the good will of the public, Mr. Baker

declared. He predicted that unless this is done politicians will use this matter of interference as a political slogan on which to ride into office and cause the light and power companies much trouble. With the aid of lantern slides he showed how to remedy interference from electric and telephone lines.

In an address entitled "The Power of Leadership" J. B. Wootan pointed out the dangers of paternalism and radicalism. He declared that radical propaganda is insidious and hard to combat, since it is harder to kill a false idea than to kill a man.

That public relations work is just putting the human quality into public utility service and practicing the golden rule was pointed out by W. S. Vivian, who declared that every public relations department should operate according to a definite program and should first "sell" the company to its employees, then to its customer-owners, its patrons and the public.

Officers of the Association for the ensuing year were elected as follows: President, R. C. Sharp, Tulsa, vice-president, Oklahoma Natural Gas Company; First Vice-President, H. B. Cobban, Miami, general manager, Northeast Oklahoma Railroad Company; Second Vice-President, F. B. Hathaway, Oklahoma City, manager, General Electric Company; Treasurer, W. R. Emerson, Oklahoma City, secretary-treasurer, Oklahoma Gas & Electric Company; Manager, E. F. McKay, Oklahoma City. New members on the Executive Board in addition to Public Relations members already named were as follows:

Electric Light Division, G. W. Skow, McAlester; Gas Division, Logan Cary, Oklahoma City; Electric Railway, Charles Hoopes, Oklahoma City, and J. G. Phillips, Muskogee; Telephone, L. E. Thrasher, Poteau; Manufacturers and Suppliers, F. T. Ealand, Oklahoma City.

Division Chairmen were chosen as follows: Electric Light, James H. Buell, Tulsa; Gas, H. L. Montgomery, Bartlesville; Electric Railway, H. B. Cobban, Miami; Telephone, E. J. Boase, Frederick; Manufacturers and Suppliers, F. T. Ealand, Oklahoma City.

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## Joint Convention of Iowa Utilities

**A** JOINT convention of the Iowa Section of the National Electric Light Association and the Iowa Electric Railway Association will be held at Waterloo, Iowa, June 3 and 4, according to announcements made by the respective presidents, Don M. Sterns of Humboldt, Iowa, and F. C. Chambers of Des Moines.

# EDITORIAL

## *The* N.E.L.A. BULLETIN

M. H. AYLESWORTH, *Managing Director.*

GEORGE F. OXLEY,

*Director, Department of Public Information*  
WILGAR COLEMAN, *Editor.*

"The object of this Association shall be to advance the art and science of the production, distribution and use of electrical energy for light, heat and power for public service. In the furtherance of this object its activities shall be largely educational and for the fullest development of the electrical engineering arts and sciences in all their branches. It shall not be engaged in business."—Article II of the Constitution, National Electric Light Association.

The closing date for the N. E. L. A. Bulletin is the fifteenth of the month preceding the month of issue. Material intended for publication must be in the hands of the editor by that date to insure publication the following month.

Subscription price in United States, \$3 per year to members and non-members. Single copies 25 cents. Foreign subscriptions \$4.00 per year to non-members.

Orders should be made direct to the National Electric Light Association, 29 West 39th St., New York, N. Y.

Manuscripts and correspondence relating to the Bulletin should be addressed to the Editor, N. E. L. A. Bulletin, 29 West 39th St., New York, N. Y.

THE subject of Customer Ownership receives considerable attention this month in the BULLETIN. It may surprise some to know that *World's Work* in the April number affirms that not since the abolition of slavery has such an important movement as the general distribution of industrial ownership appeared which carries with it as far reaching and as beneficial aspects on the national life.

IN this number of the BULLETIN will be found also two articles which we recommend for careful reading and digesting by all our members. While they are written from the engineering viewpoint, and primarily for an engineering audience, they are in non-technical language and the views laid down should be known by every intelligent person in the industry. We refer to "Economic Aspects of Electric Power," by Edwin Dreyfus, and "Power in Pennsylvania," by Charles Penrose.

THE latter paper discusses, as may be guessed from the title, the recent report on the "Giant Power" survey and the recommendations carried for the Pennsylvania legislature, which have been characterized as being "as vicious a legislative program as any of the forty-eight States have been privileged to have as a menace."

WE submit a practical test of Public Relations work: "That the concern of the gas and electric companies for that aspect of their business

called 'public relations' is resulting in a pronounced accomplishment is shown from the decreasing number of complaints which have reached this department in the last few years. Beginning with 1921 their number has been successively 596,557,443 and 328." This is taken from a report of the Massachusetts Department of Public Utilities. It is hardly necessary to point out that every year the number of customers has increased and that the percentage of decrease is, therefore, larger than the figures indicate.

THAT the emphasis placed on good Public Relations has been more than worth while, thousands of companies will testify. There must be no let up on the subject. The spirit of a company which is symbolized by good Public Relations must be cultivated until it becomes as much a part of the company as the generating system, or the transmission system. In short, it must be woven into the very warp and woof of the central station fabric. It must reach the point where *good* public relations attain the status of *best* Public Relations.

MR. M. S. SLOAN, who, in addition to being President of the Brooklyn Edison Company, is Chairman of the Public Relations National Section, N. E. L. A., had this to say on the subject the other day: "I don't expect to live long enough to see the time when there won't be somebody expressing dissatisfaction with the best utility company on earth. Nevertheless it is perfectly possible for a public utility to shape its policies and its practices so that it may have and hold the good opinion of a very large majority of the public. The executives and the Board of Directors can't do it all. No one division of the organization can do it all; but working together, all of them, they can do the job of giving the public a square deal. It's up to us to decide whether we want to do business with waste and friction due to misunderstanding and antagonism or whether we want to have the understanding and friendly cooperation of our public. We'll get what we earn." And what we deserve, we may add. You may read all of what Mr. Sloan has to say on the subject in the first article of this number.

AN employee of the Ohio Public Service Company, commenting on the *Employees Manual* which was recently distributed to members of the company said, "I have always found that the more unruly the customer and the more unreasonable the complaint, the greater was the pleasure derived from giving

an acceptable explanation, or making a satisfactory adjustment."

WE suspect this gentleman is heavily endowed with the crusader's spirit; that he has the soul of the missionary and the evangelist. This spirit is most commendable, the young smart *intelligentsia* to the contrary, and it is a pity that the spirit, present in all of us, but latent in many, is not cultivated more. His reasoning is sound. Every child knows the harder we fight for a thing, the more desirable it is. A homely truth and a hackneyed statement if you please, but no apology is intended when we say that it is frequently the perfectly obvious that needs to be pointed out.

ANOTHER employee of the O. P. S. submitted to the company the opinion that its creed should be "We will be satisfied with our service only when every home has every piece of electrical apparatus that will contribute to the health and happiness of the occupants; when every factory and manufacturing plant has been entirely electrified." That is not a mad ideal. It is the unspoken ideal which every alert company is striving to attain, although we have never seen it reduced to such a convenient formula.

A COMMENT on the *Manuals* "The value of the book to me is priceless for its educational value, also for the information furnished that beforehand was unknown to me concerning our company." If any justification were necessary for the *Employees Manual* such statements coming from employees would fill the requirement. These quotations on the *Manual* were taken from the *Delta*, the employees' magazine of the Ohio Public Service Company, of which Mr. T. O. Kennedy is president, and were chosen from a considerable number of comments made by employees after reading the *Manual*. Incidentally, the *Delta* is one of the best edited employees' magazines we know.

"PUBLIC service is a public trust" is the fitting title chosen for the 1924 year book and annual report of the Consolidated Gas, Electric Light & Power Co. of Baltimore, which has recently been mailed to stockholders and others.

The report is a handsomely designed and illustrated book of 80 pages edited by Arthur W. Hawks, Jr. A fitting comment on the report is taken from a Baltimore *News* editorial of March 3. It reads:

"IT is fifteen years since J. E. Aldred (chairman of the board) and his associates entered the Baltimore field, and so the Consolidated Gas, Electric

Light & Power Company has printed a very handsome record of its service. The pamphlet is a beautiful piece of work, very ably compiled and worthy of the story that is told. At the end of 1924 the total assets had reached \$103,696,339, an impressive proof of the growth of this great organization. In 1910 there were only 1251 stockholders; today there are 14,890; so the prosperity of the company reached many people and is stronger because it is widely owned.

"BUT the shining virtue of the Consolidated is its translation of Grover Cleveland's old phrase into 'Public service is a public trust,' and its honest effort to live up to it. 'The avowed purpose of the company has been to become the strongest and most useful public servant in building a greater Baltimore,' it says, explaining that the conception was not philanthropic or altruistic, but sound business vision carried out for profit both for the investors and the community. 'Both have prospered,' it adds. 'Both have achieved prestige.'

"It all makes a happy chapter in which the city of Baltimore can join the company in finding satisfaction and congratulations."

ON the cover of the *Northern Light*, the Northern Ohio Traction & Light Co. employees' magazine, we ran across an old favorite, "The Bridge Builder" which some of you may not know. If you do know the poem you'll probably enjoy reading it again.

An old man, going a lone highway,  
Came at evening, cold and gray,  
To a chasm vast and deep and wide.  
The old man crossed in the twilight dim—  
The sullen stream had no fears for him.  
But he turned, when safe on the other side,  
And built a bridge to span the tide.

"Old man," said a fellow-pilgrim near,  
"You're wasting your strength in building here;  
Your journey will end with the ending day,  
You never again will pass this way;  
You've crossed the chasm deep and wide—  
Why build you this bridge at the evening tide?"

The builder lifted his old gray head,  
"Good friend, in the path I come," he said,  
"There followed after me today  
A youth whose feet must pass this way;  
This chasm which has been as naught to me,  
To that fair-haired youth may a pitfall be;  
He too must cross in the twilight dim—  
Good friend, I'm building this bridge for him."  
—*Author Unknown.*

## Oliver Heaviside

By W. V. LOVELL

THIS generation of engineers has inherited a bad conscience with respect to Oliver Heaviside, which tinges with awkwardness any attempt to render a fitting tribute to the illustrious Englishman who was so far in advance of his times. Mr. Heaviside died Feb. 4, 1925, at Torquay, aged 74.

For the last fifty years of his life Mr. Heaviside lived in seclusion, pursuing studies to his own liking and maintaining rather meagre personal contact with the outside world. A most unfortunate attitude on the part of engineers of the time, who lacked ability and vision to comprehend the early disclosures made by Heaviside, resulted in what amounted to his alienation. Whatever there may have been of personal bitterness toward the profession, because of his early treatment, it was not sufficient to prevent further fine work.

The name Heaviside has long been surrounded with mystery, both as to the man and as to his accomplishments. The reason for the lack of information on the man has been largely because he avoided all publicity. There has been as much vagueness in the average mind about his works. His early work was denied publication for a long time, and acknowledgment was even longer delayed. This story is fairly well known and is, in fact, almost legendary. However, Heaviside's writings have never been generally available to anything like the proper extent. A happier situation in this regard would certainly have afforded more minds an opportunity of enrichment, and might possibly have been to the financial advantage of the writer.

Heaviside was a mathematician of such brilliance that one could suspect him of having found the royal road to learning. He is particularly noted for the development and application of an operational method of solving equations. By means of the mathematical system he evolved he was able to pursue studies to conclusions quite beyond the reach of his contemporaries. Subsequent investigations have confirmed his results in all main respects, and have shown the great merit in the system used, which now bids fair to become fashionable. Heaviside belonged to the Clerk Maxwell school and has contributed materially to a better understanding of Maxwell. His early mathematical endeavors were directed at the solution of problems of propagation in telephone and telegraph circuits.

Another contribution to modern engineering for which Heaviside may be more widely known than on account of his mathematical developments, is the demonstration of what is known as the "Heaviside layer"—an ionized stratum supposed to exist in the upper atmosphere, which guides the upper ends of Hertzian waves, while the curved surface of the

earth or sea guides the lower end. Because of its bearing on the relatively new but tremendously popular art of radio, this disclosure brings his name into wider prominence.

It is too late to make a fitting appreciation of Oliver Heaviside. We can, however, properly respect his memory and his accomplishments, and we can try to take care that, if there should come another such, he will be better received.

## Electric Heating Exhibit Digs Up \$150,000 Worth of Prospects

By V. M. F. TALLMAN

LAST September the Power Bureau of the N. E. L. A. through its Industrial Electric Heating Committee was instrumental in putting on an exhibit at the exposition of the American Society for Steel Treating held in Boston.

The exhibits not only created interest but resulted in sales. Nine exhibitors have reported to us a total of 382 active prospects which when closed will add to the central stations loads as follows:

	Kw. Connected Load	Kwhr. Per Year	Income at 1.5c. Per Kwhr.*
Ovens and furnaces....	7,585	8,789,000	\$131,835
Welding and riveting..	2,600	666,000	9,990
	10,185	9,455,000	\$141,825

\*The income from this business will vary from 1c. to perhaps 3c., depending upon local conditions. 1.5c. is extremely conservative for the average.

This shows conclusively that there is a lot of industrial electric heating business to be had *provided the central station men are properly trained to get the business.*

The N. E. L. A. will again conduct an electric heating school in April, 1925, for the benefit of the central stations who are live enough to want to get more business.

The Industrial Electric Heating Committee are doing excellent work for the utilities in the compilation of up-to-date information on this subject.

Every executive should see to it that his men make it their business to know what is going on in this rapidly growing field. This information can be obtained either by communication with the chairman of any Geographic Power Bureau of the N. E. L. A. or by addressing the chairman of the National Industrial Electric Heating Committee, or the chairman of the National Power Bureau.

In these days of strenuous competition each power man must know the facts if he is going to successfully get and hold the power and heating business. Nothing short of 100 per cent facts is satisfactory.



### TIME EXTENSION FOR PRIZE AWARDS RESCINDED

In the March number of the BULLETIN appeared notices that extension of the time limit for submission of entries in various prize contests would be extended. In the case of the Doherty Medal, the Harriet Billings Prize, H. M. Byllesby Prize, Martin J. Insull Prize, James H. McGraw Prize, Arthur Williams Prize, and the Frank W. Smith Educational Prize, the date was moved from April 15 to May 15, 1925, and from March 15 to May 1 in the case of the Employees' Home Lighting Contest.

The Prize Awards Committee of the N. E. L. A. regrettably announces that the time extension offer is withdrawn.

This action becomes necessary because of a communication from the Postmaster at New York City stating that the original conditions as set forth in the first announcements must be adhered to.

The letter from the Postmaster reads in part: "The Post Office Department has repeatedly ruled that the extension of the closing date of a prize contest in connection with which the mails are used is not permissible. It is required that the date up to which entries will be received shall be stated in the conditions and that this date shall be adhered to. Prizes should therefore be awarded for the best entries received up to the date originally announced."

Under this ruling the announcement made in the March issue is therefore necessarily and reluctantly rescinded, and the original closing dates for the time of entry will be effective.

### Public Utility Group N. A. P. A. Hold Successful Meeting

THE two-day conference of public utility purchasers held in Pittsburgh on Feb. 12 and 13, under the auspices of the N. A. P. A. Public Utility Group, was an outstanding success. A total of fifty-four were registered, including public utility buyers from fourteen different states. Official representatives were present from the American Gas Association, National Electric Light Association and American Electric Railway Association. The meetings were attended also by many officials and members of the Pittsburgh Association of Purchasing Agents, who were not officially registered at the conference.

Lewis A. Jones, Adirondack Power & Light Corporation, Schenectady, N. Y., who is chairman of the N. A. P. A. Public Utility Group, presided at the conference sessions. The papers and addresses delivered had been carefully prepared and were enthusiastically received.

In each case lively discussion followed. The conference was unanimous in its pronouncement that the conference had been very much worth while and exceedingly beneficial to all present.

A considerable share of the credit for the success of this conference is due to the untiring efforts of Lewis A. Jones, chairman, and other members of the Executive Committee of the Public Utility

Group. The conference passed a resolution of thanks to the officers and members of the Pittsburgh Association of Purchasing Agents for their courtesies and assistance in conducting the conference and for the splendid program of entertainment they had prepared and presented at the dinner session on the evening of Feb. 12.

The next meeting of the Public Utility Group will be at the Tenth Annual International Convention and Informashow of the N. A. P. A., to be held in Milwaukee May 25 to 28.

### Likes N. E. L. A. Course

THE following letter is one of many voluntary testimonials received by Mr. Jenkins of the Educational Committee:

THE SOUTHERN SIERRAS POWER COMPANY

*Riverside, California,*

*February 10, 1925.*

Mr. Fred R. Jenkins,  
Chairman, N.E.L.A. Educational Committee,  
72 West Adams Street,  
Chicago, Ill.

Dear Sir:

I received my certificate for completing your elementary accounting course, and wish to thank you for it, and also take this opportunity to express my appreciation of your splendid course.

The lessons are arranged in such a way as to start one right in at the beginning and everything is made so plain that even a beginner who did not know a thing about the subject should have no difficulty in grasping it as he proceeds with the work.

Another thing that I liked especially well was the way you have of giving the reason for everything that is brought into bookkeeping. By doing this the student is made to see the purpose back of all the system of accounting and to more fully appreciate it.

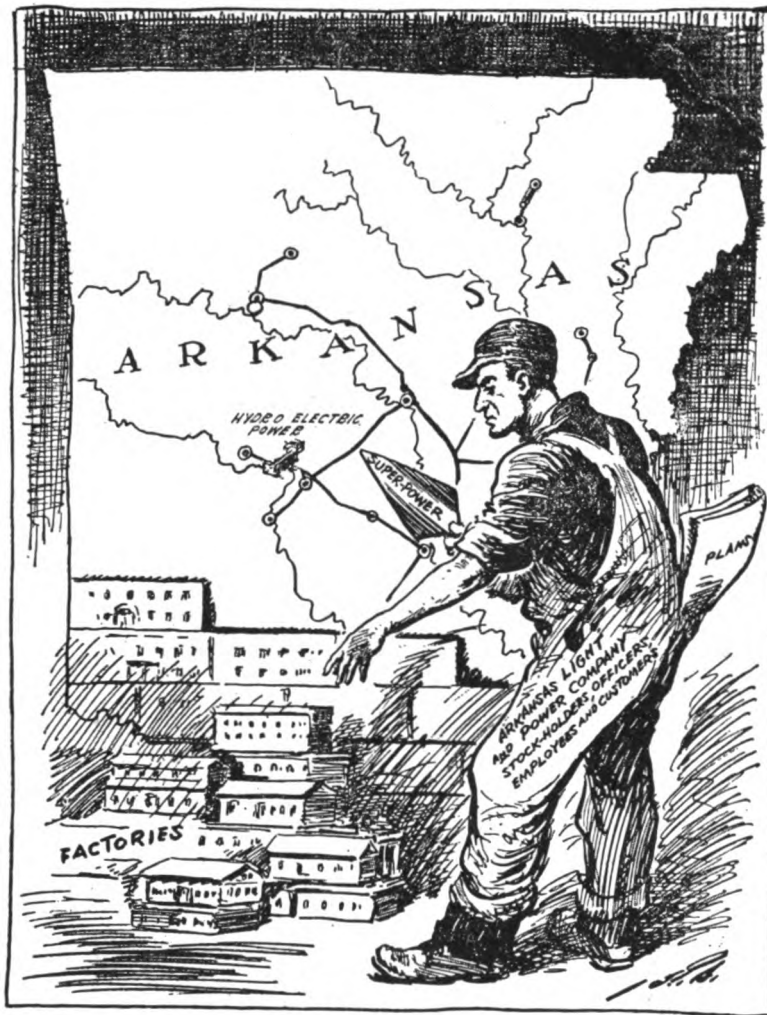
Further than this you have made the work very practical, the student getting an actual bookkeeping experience along with his lessons. Although I had practically no experience in actually keeping a set of books, I do not feel that I would have any difficulty in doing so now.

Another item that I very greatly appreciate is that your courses are so inexpensive, bringing them within the reach of all. I am convinced that the same course could not be obtained anywhere else for less than two or three times the cost.

Your very truly,

L. E. Branson,  
954 W. Eighth Street,  
Riverside, Cal.

P. S.—I intend to enroll for your advanced course real soon.—L.E.B.



### BUILDING ARKANSAS

"Building Arkansas is the title of this cartoon by J. P. Alley, of the *Memphis Commercial-Appeal*. It graphically depicts the attitude of the people of Arkansas toward the Couches, who are carrying on in Mississippi development work similar to that they have prosecuted so successfully in Arkansas. The Mississippi Power and Light Company—the Couch Company—was the first to begin development of super-power system in Mississippi, and has built the only transmission lines operated in the State. These systems are being extended rapidly."—*Aberdeen, Miss., Examiner*.

### Storrs Appointed Managing Director of A. E. R. A.

**L**UCIUS S. STORRS of New Haven, Conn., on April 1 began his duties of managing director of the electric railway industry in the United States, a position which has just been created.

An advisory council, including Randal Morgan of Philadelphia, B. C. Cobb, Owen D. Young, Guy F. Tripp, all of New York, and Samuel Insull of Chicago, recommended Mr. Storrs' appointment, which has been made by the American Electric Railway Association.

The position of managing director was created

for the purpose of making available to the public and to electric railway managements the services and advice of a widely experienced transportation executive.

Mr. Storrs, who is president of the Connecticut Company, will retire from that position but remain as director. The company is one of the largest electric railway properties in the world. It operates buses and electric cars virtually throughout Connecticut.

Other members of the advisory council are P. H. Gadsden of Philadelphia, A. W. Thompson of Pittsburgh, Samuel M. Curwen of Philadelphia, Thomas N. McCarter of Newark, Henry L. Doherty and S. Z. Mitchell of New York, Nicholas F. Brady, Britton I. Budd, F. R. Coates, Frank L. Dame, C. D. Emmons, J. H. Pardee, H. Hobart Porter, Paul Shoup, R. P. Stevens and J. N. Shannahan, president of the association.

Mr. Storrs was born in Buffalo. He has had extensive experience with the Northern Pacific, New Haven and Hartford Railroads and the Colorado Fuel and Iron Company. He was president of the New England Investment and Security Company before becoming president of the Connecticut Company. In 1917 he was president of the American Electric Railway Association. During the European war he was chairman of the electric railway committee of the National Council of Defense.

### J. A. Fowler New President of Electragists

**J**OSEPH A. FOWLER, who was recently elected president of the Association of Electragists, International, has been identified with the electrical business in Memphis, Tenn., for the past twenty-six years. In his home city Mr. Fowler enjoys the reputation of being an excellent organizer and harmonizer. He is known for his ability to bring disagreeing factions together and to obtain their cooperation. These traits, coupled with more than twelve years of service on the executive committee of the association, fit him unusually well to lead the organized electrical contractors and dealers.

In 1910, Mr. Fowler established the Fowler Electric Company and has been very successful in this business.

### A Correction

ON page 121 of the February N. E. L. A. BULLETIN appears the statement that "The Harriet Billings Prize is a cash award of \$50 donated by W. C. L. Eglin, vice-president of the Philadelphia Electric Company, and president of the association 1911-1912, for the second best paper on any subject relating to the central station industry." Mr. Eglin writes that, "It was through the generosity of Mr. Arthur Williams that the Harriet Billings Prize was established, and this honor belongs to him and not to me, although we were all delighted the work of Miss Billings was recognized in this manner." Mr. Eglin also calls attention to the fact that he served as president of the association in 1908-1909 instead of 1911-1912.

### Memorial for Edison

THE glory attending the achievements of Thomas Alva Edison will shine around and about him while he is alive—that, at any rate, is the determination of the Edison Pioneers, a group of the famous inventor's closest associates of forty years ago when his remarkable career was beginning. Emphatic expression of this purpose was registered on Feb. 11, when these veterans gathered at luncheon in the Hotel Astor, New York City, to observe, with fitting ceremony, the seventy-eighth birthday of the Wizard of Menlo Park.

Lively enthusiasm marked the review of the form which this tribute has taken and a report, presented by John W. Lieb, vice-president and general manager of the New York Edison Co., received the full support of the 175 diners grouped around the tables. The report apprised them formally that the memorial being erected in Menlo Park, on the immediate site of the inventor's early successes, was almost ready for dedication. As chairman of the Edison Pioneer Memorial Committee, Mr. Lieb described the project in detail. It is, he announced, in the nature of a bronze tablet affixed to a great seven-ton boulder mounted on an impressive base of concrete. The foundation includes bricks that once formed part of the old Edison homestead and the cement is the product of the Edison Portland Cement Mill.

In describing the character of the bronze tablet placed upon the boulder, Mr. Lieb showed the diners a photographic reproduction in sepia. It depicted a bust of Edison in bas relief, after a photograph that is reputed to be a striking likeness of the inventor. The appropriate inscription under this may be read by passersby on the Lincoln Highway.

Those who have played a particularly significant part in arranging and designing the memorial, in addition to Mr. Lieb and his associates on the

Memorial Committee, were the Messrs. E. M. Van Norden, civil engineer; William Whitehill, architect; R. R. Bowker, who wrote the inscription, and Charles L. Edgar, retiring president of the Pioneers.  
—*The Edison Monthly*.

### Meter School at Carnegie Institute

A SHORT course meter school for electric meter employees in western Pennsylvania, West Virginia and eastern Ohio will be given by the Carnegie Institute of Technology from May 4 to May 9, 1925, according to an announcement. The school will be conducted in cooperation with the Meter Committee of the National Electric Light Association for the special benefit of the power and manufacturing companies affiliated with the Meter Division of the association.

The course is being planned to accommodate about 50 students, although the announcement emphasizes the willingness of the institute to enroll practically anyone interested in the work. No tuition fee will be charged to any of the students.

A series of about twelve lectures by representatives of the power and manufacturing companies and the manufacturers of meters has been tentatively arranged. In addition, there is to be an exhibit of meters arranged by the meter manufacturers.

The Department of Electric Equipment and Construction of the College of Industries, which is to have charge of the course, is already assisting the Pittsburgh power companies by giving special evening courses in Electric Meter Practice to selected employees.

For the special course in May, F. C. Ashe, head instructor of the Department of Electric Equipment and Construction, is having the cooperation of Orville R. Buys of the Duquesne Light Company, and Thomas C. Pitzer of the West Penn Power Company, in arranging the program.

### Lighting a Department Store

IN the April number of *System* appears an article on "Retaining the 'Halftones' with Artificial Lighting," by Lawrence R. Colby, superintendent, Saks & Company. The article describes the lighting plan worked out by Saks & Company for lighting their new department store on Fifth Avenue, New York City. How a very satisfactory result in lighting the newest of New York's great department stores is achieved is related in some detail. The author concludes with the pertinent statement that "the current is purchased from the public service company at a rate materially less than the cost of house-generated current."

## Safety in Counsel

**M**OST of the public utilities operating in Texas are affiliated with an organization known as the Texas public service information bureau. This bureau is presided over by a practical and experienced newspaper man, George McQuade, whose mission it is to keep informed both the public and the utilities themselves as to the effect of their managing operation on their public relations. And be it said to the everlasting credit of Mr. McQuade, they are making a fine job of it.

The day of "the public be damned," as the dogma of the public utility, is over. This is true, not only in Texas, but wherever there is a well-managed utility. That they have been greatly aided in reaching a correct appraisal of their acts in the estimation of the public they serve, by the hundreds of trained men whose business it is to point the way to the goal the utilities are constantly seeking. Better relations with the public served, is becoming constantly more apparent. Not only has the public a better conception of the problems the utilities have to solve, but the utilities have a far better grasp of their obligations. The old idea that the public was created for the exclusive benefit of the utilities, to be gouged at leisure and ignored at pleasure, long ago exploded with a loud bang. As also is that other idea, so long popular, that the public's greed is only exceeded by its avariciousness and ambition to ruin the utility.

Now it is known of the dullest utility manager that both the public and the utility serving it possess equal rights and, to take an advanced view, equal responsibilities. There is no liability so to be deplored as a starved utility, pauperized to the point where it is physically and financially impossible for it to function effectively and satisfactorily. There is no legerdemain through which a public utility may acquire funds, and funds are a condition precedent to functioning as the public has a right to demand that it function. There are two methods by which the utility gets money. One is through revenues derived from the necessary service it performs, and the other is through new capital invested in the enterprise. There is no other way. Capital is a charge against the revenues of the corporation no less than wages or material for maintenance. The cost of money is determined, first, by the safety of the investment. Assure fair and adequate returns, continuing and certain, unvexed by discord and attacks inflamed and aggravated by poor and inadequate service, and the utility is welcome in the markets where money is to be had. The investor is even more anxious for safe investments than the borrower, and with the rise in continuity and safety, the cost of capital decreases and its amplex is assured.

Properly financed, there is never a reason for the

utility to quarrel with its bread and butter. It is only when a poverty-stricken corporation fails utterly through mismanagement, or otherwise, there is any excuse for bickerings which react harshest upon the public itself.

Do not misinterpret the new light which is shining upon the hitherto dark places in public service corporations. They have learned that the most costly blunder they ever made was in fighting the people rather than serving them intelligently, honestly, efficiently. Until they learned this lesson there was war everywhere and no peace anywhere. Now the public, too, is learning its lesson. It knows that peace is productive of far better returns than war. The lesson is not yet learned, as it will be, if the utilities continue their present policy, and it is paying so handsomely there certainly is no disposition to go back to the old bush-whacking. For which both the public and their servants are to be felicitated and congratulated.—*Houston Chronicle*.

## The Vanishing Horseshoe

**A** DOLEFUL note in the anvil chorus is the announcement that the United States Steel Corporation has quit manufacturing horseshoes, its output in this department having dwindled before the furious march of the automobile. At the National Horseshoers' convention last summer a delegate defined an optimist as "manifestly a horseshoer," although he added, "but don't let it ever get into your head that the horse is becoming extinct."

Not extinct, of course, for so long as there are sportsmen there must be blacksmiths to shoe the thoroughbreds; but what can the horse do ultimately to hold his own against a mechanical rival that is already driving little railroads to the wall? Up in New England here and there blacksmiths are still shoeing oxen. Probably there are craftsmen even now whose trade is making pens of the quills of the gray goose. The printing press and the typewriter have not totally extinguished the copyist, with his copper-plate perfection. And in the schools handwriting is not wholly a lost art. The vessels of steel have not quite done away with the wooden-ship carpenter. Few trades that were ever practiced have been absolutely extinguished. Who can name one?

But inventions are perilous to old crafts. Nobody knows yet exactly the dimensions of the radio's conquest and threat. Most persons engaged in manufacture can imagine themselves in the plight of the horseshoer so long as inventors persist in outmoding things of established use. Whatever his occupation, one may esteem himself lucky nowadays not to wake up some morning to find himself, like the horse, obsolescent.—*New York Herald-Tribune*.



## Central Station Men Attend Twelfth Illumination Course at Nela Park



is good evidence that the Central Stations are recognizing the opportunities for development of their lighting business and are preparing to meet the responsibility of leadership in their own communities.

In all, eighty-seven men representing central stations, electrical jobber and dealer organizations, fixture manufacturers, etc., were enrolled in this course, the largest of any of those held during the four years that they have been given. During this time over 600 men have been trained as lighting specialists, and it is particularly significant to note that the Central Stations had a larger representation than any of the other interests represented at this school.

Intensive training in illumination fundamentals, practical problems in lighting designs and layouts, and the presentation of the commercial aspects of the various lighting fields by national authorities acts not only to increase the confidence of these men in their ability to solve lighting problems, but training also imparts enthusiasm to develop heretofore unseen opportunities.

THE accompanying photograph shows a group of thirty-three men who represented various Central Stations in the Twelfth Illumination Course given by the Engineering Department of National Lamp Works, at their Nela School of Lighting, Nela Park, Cleveland, during the week of Feb. 9-13

## Alternating Current Low Voltage Networks

**Alternating Current Low Voltage Networks.** Serial report of the Electrical Apparatus Committee, Technical National Section, N. E. L. A. Published by N. E. L. A. Headquarters, 29 West 39th Street, New York. Price to members, 15c; to non-members, 25c.

THIS report tells of the present practice and what may be the future methods in the use of underground networks for supplying alternating current in congested urban districts. For reliability of service alternating current should be distributed by way of networks in the same way as direct current. This means paralleling of feeders and transformers with consequent problems of distribution of load and protection.

These problems have been fairly satisfactorily solved by at least the ten companies whose practice is given in this report. The majority distribute on primary feeders of 2300 volts to neutral, 3 phase, 4 wire with grounded neutrals, and have various systems of low voltage networks. It is with these low voltage wirings that the report is concerned.

The schemes are (1) Delta with mid-point of one side tapped and grounded. This gives 115 and 230 volts. (2) Y connection, neutral grounded to give 115 and 120 or 199 and 208 volts (rather low motor voltages). (3) Same as (2) except that a special

transformer with extra turns on each phase gives a seven conductor, 115 and 220 volt supply. (4) Delta with one corner grounded and midpoints tapped; six conductors and 115 and 230 volts. (5) Six phase star, neutral grounded, resulting in the same as (2). (6) Two phase by way of Scott connection to give 115 and 230 volts; has five conductors and only two phases.

It should be noted that when the very convenient layouts of (2) and (3), i.e., grounded Y, are used, the voltages for power and light are not standard. The report notes this and devotes three pages of text, curves and tables to prove that a standard 220-volt motor will work well enough on 90 per cent rated voltage.

Data are presented by the reporting companies concerning the permissible lighting voltage fluctuation due to motor starting; 4 per cent and 5 per cent are mentioned as maximums. The tendency, however, is to supply relatively large loads from separate transformer installations.

The report points out that while as yet there is no uniform practice in low voltage a. c. networks, special study will be made of primary voltages, high no uniform practice in low voltage a-c networks, protectors and the use of secondary fuses on branch circuits with the idea of definite standards in mind.

—R. A. ANDREWS.

# COMMERCIAL SECTION

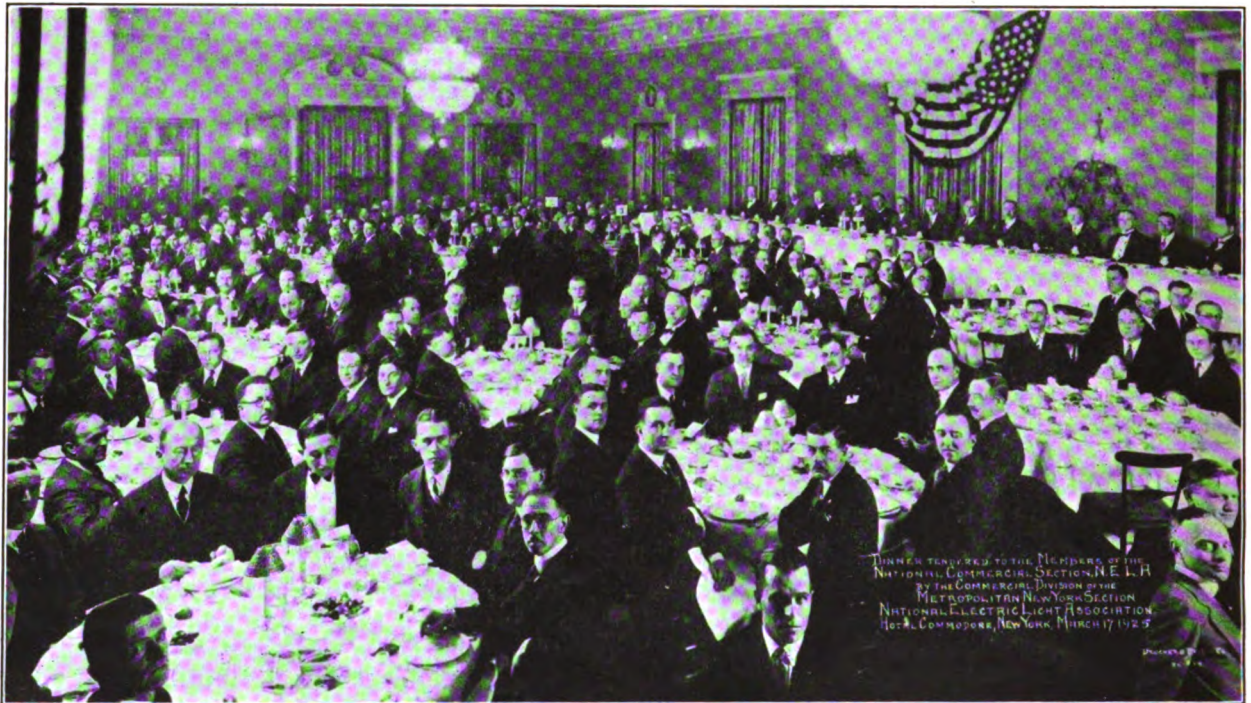
W. R. PUTNAM, *Chairman*  
*Commercial National Section*

## Group Meetings—Commercial National Section, March 16-19

ONE of the most successful groups of committee meetings of the Commercial National Section ever held was conducted in New York at N. E. L. A. Headquarters March 16 to 19, during which time every committee, and many subcommittees, of the section held unusually well attended meetings. Convention reports were completed for printing for distribution at the San Francisco Convention, to be held in the Exposition Auditorium of that city from Monday, June 16, to and including Friday, June 19. The attendance approximated 200.

man, Commercial National Section, after which those privileged to be present were favored with enjoyable entertainment provided by unusually clever talent.

On the evening of Wednesday, March 18, the Customer Relations Committee conducted a general meeting at which time the responsibilities and opportunities of the commercial man in connection with public relations was thoroughly reviewed and stressed by Mr. F. F. Kellogg, chairman, Customer Relations Committee; Mr. W. R. Putnam, chairman,



Commercial National Section Committeemen are guests of Commercial Division, Metropolitan New York Section N. E. L. A. at Hotel Commodore

In addition to the meetings, all committee members were the guests of the Metropolitan New York Section of the National Electric Light Association at a dinner-entertainment on the evening of Tuesday, March 17, at the Hotel Commodore. There was an attendance at this dinner meeting of approximately 300, including members of the Metropolitan New York Section. The dinner was followed by inspiring talks by Mr. Walter R. Boyd, chairman, Commercial Section, Metropolitan New York Section, who acted as toastmaster; Mr. Frank W. Smith, a past president of the National Electric Light Association, and Mr. W. R. Putnam, chair-

man, Commercial National Section; Mr. A. W. Robertson, general attorney, Philadelphia Company, Pittsburgh, Pa.; Mr. M. S. Sloan, Brooklyn Edison Co., Inc., Brooklyn, N. Y., chairman, Public Relations National Section of the association, and Managing Director M. H. Aylesworth of the association. This meeting was one of unusual importance and interest.

On Thursday morning, March 19, all members of all committees assembled, and the chairman of each committee at that time reviewed the salient features of his committee operations for the year and reviewed the "high spots" of the convention reports.



It was manifested at this meeting that the committees without exception had each been extremely active during the year, and as a result had developed reports which will prove of inestimable value to the industry. These reports will be printed for distribution at the San Francisco Convention.

On the afternoon of Thursday, March 19, the Section's executive committee held a meeting, at which time the convention program of the Commercial National Section in general was formulated. It was decided to confine the program of the Commercial National Section to the presentation and discussion of committee reports, and the sessions of the Commercial National Section will be held one each on the afternoons of Tuesday, Wednesday and Thursday, June 16, 17 and 18. As soon as the convention program of the section has been completed it will be broadcast through the medium of the N. E. L. A. BULLETIN and otherwise.

At the Customer Relations Committee meeting Mr. Putnam pointed out that the commercial men have a great responsibility in molding customer relations and, given good customer relations, a company's public relations problem is virtually solved.

Mr. Robinson related some interesting personal experiences in building better public and commercial relations for the utilities in the Pittsburgh district. He declared that a company's public relations reflect the character of that company, and when things are not going right he urged the utilities to look first to themselves for the causes of trouble.

Mr. Sloan addressed the meeting on the commercial man's relations to public relations. Commercial departments exist, he said, to sell electric service, and upon the manner and quantity of their sales efforts good public relations depend. It is highly important that customers be served willingly and courteously and receive a square deal, but it is of much greater importance that companies let their customers know that they have received a square deal, because the public is prone to take too much for granted. Mr.

Sloan's address appears elsewhere in this issue of the BULLETIN.

Mr. Aylesworth bespoke the cooperation of the Commercial Section in furthering a better nationwide understanding of the electrical industry and in combatting insidious propaganda favoring government and State ownership of public utilities.

The electric cooking and heating committee (Mr. A. C. McMicken, chairman) is preparing a report showing the progress of its investigation of the electric range load and the Northwest and purposes to carry on a similar survey on electric water heaters next year. This committee's report will also include data on range servicing and the cost of wiring.

Under the chairmanship of Mr. G. E. Miller the electric domestic refrigeration committee will complete an exhaustive study of this load and include a great amount of valuable information compiled from installations on customers' premises.

The power committee, Mr. V. M. F. Tallman, chairman, has continued its study of industrial electric heating, and this year's report will contain consumption and load data on every type. Much of this committee's work has been issued in the form of interim reports, and in addition the committee has conducted its industrial heating schools, another of which will be held in cooperation with an electric manufacturing firm some time this spring. A commercial electric cooking manual is under preparation by a special sub-committee, of which Mr. A. M. Lloyd is chairman.

The transportation committee, Mr. B. J. Martin, chairman, is working with trade associations to show the advantage of electric trucks in their business and is preparing its report to show actual operating data on typical truck fleets.

The report of the lighting committee, Mr. C. C. Munroe, chairman, will embody a vast amount of survey data valuable to central-station companies in developing residential, commercial, industrial and street highway lighting.

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## Industrial Lighting Committee

By JOSEPH F. BECKER

**I**NDUSTRIAL plants of all types have found that increased economy is the immediate result of an improvement in lighting conditions. Not only is production increased, but there is usually less spoilage in production, and a decided decrease in the number of accidents. That economy can be obtained by better lighting facilities is a known fact to the many industrial plants that have changed their lighting equipment, and if plants that have not had this brought to their attention were to know of the facts, a rapid bettering in industrial lighting conditions would result.

In an effort to better industrial lighting conditions throughout the country, an Industrial Lighting Committee is being formed in the commercial section of the National Electric Light Association to conduct a nation-wide campaign in the principal industrial cities. The Industrial Lighting Committee will be composed of representatives of all branches of the electrical industry interested in industrial lighting, and, in addition, representatives from other industries that have an interest in better and safe production in manufacturing plants.

The Industrial Lighting Committee will conduct an advertising campaign in national business, and industrial magazines in order to interest executives of plants in better industrial lighting, and will assist

local groups in the industrial cities in stimulating the use of better industrial lighting.

Committee chairmen will be appointed in each of the twelve geographical divisions of the National Electric Light Association who will carry the story of the activity to the cities and show them how they can obtain the interest of manufacturing executives in the lighting problem.

In addition to the advertising campaign, the Industrial Lighting Committee will prepare direct mail material for the use of the local groups, provide a lecture and demonstration service and send men into the field to assist in the solving of local problems.

The direct mail material will consist of several broadsides which can be mailed to the prospect list of the local group, inviting the recipients to visit demonstrations on the effect of better industrial lighting or to request the services of an engineer to discuss the problem of better lighting in factories.

In addition, the local group will be provided with suggestions for newspaper advertising to back up the advertising of the committee and the direct mail literature.

Suggestions for demonstrating the proper kind and types of equipment for factory lighting at a central exhibition and for laying out model factories will be provided by the committee for the local groups. Also, the local groups will receive suggestions from the national committee for planning actual specifications for re-lighting industrial plants.

The local group will consist of an already existent electrical league or the local electrical people can form a committee to carry out the plans.

The campaign will be conducted next fall and while the definite details of the activity have not been completed, it is expected that they will be so broad that any city can participate for the general good of the industry in the town and actually obtain increased business in industrial lighting equipment.

## Transportation Committee

By B. J. MARTIN

**B**RIGGS should add another cartoon to his famous series "Ain't it a Grand and Glorious Feeling?" He should picture an N. E. L. A. committee chairman attending first a committee meeting, from which the chairman was absent, as well as most of the personnel. Then he should picture him at a committee meeting of his own held, unfortunately, in the summer time and favored with only a handful of out-of-town representation. Next, he should picture him sitting at his desk and hoping for the best, for a committee meeting 2000 miles away and attended only by local members. Then for the last scene, picture him presiding over a committee meeting in New York City, with thirty-five men in attendance, including twenty-four bonafide members of the committee, three out of four of the

sub-committee chairmen, and the senior executives of the principal manufacturing companies interested in the committee work.

That is enough to make any committee chairman feel happy. Suppose, in addition, that the committee is favored with reports from twelve geographic division committees, five of them in person and the rest by written reports. Suppose, furthermore, that there are representatives present from several of the cities which have been noted for their lack of interest in the work of this committee. Add to all this the fact that the year just past has been the best in the history of the industry, in the face of the fact that competitive business declined somewhat during this year, and the fact that the interest of the electric light companies has very definitely been aroused, and that the committee has concrete evidence of this fact, in that three important cities have put men on full time to promote its activities, these cities being Cleveland and Minneapolis.

Consider all of these facts and you will realize why the Transportation Committee is feeling happy, and why we urge you enthusiastically to read our annual report when it comes out in the near future, and to come out to San Francisco and discuss it with us.

## Lighting Committee

By C. C. MUNROE

**F**IVE geographic divisions, three members at large, ten other representatives and the chairman, vice-chairman and secretary attended the meetings of the Lighting Committee held in New York in conjunction with the Commercial Section Group Meetings, March 16-19.

A number of reports were heard from various members.

Mr. Luckiesh read a report on the analysis of the Home Lighting Essay Contest, in which the present conditions were compared with the survey made by him approximately three years ago. The report showed some improvement as to present conditions over those of three years ago, but it was clearly pointed out that there were still a great deal of improvement which could be made in residence lighting. The report was complete in every way and contains a great amount of data and information, which will be valuable to central stations and electric leagues in further promotion of residence lighting.

It was shown that the Home Lighting Essay Contest would bring to the attention of the public the value of shaded light, better lighting equipment and greater wattage for adequate residence lighting.

A report on lighting campaigns was read by Mr. P. B. Zimmerman, which contained data obtained through the sending of questionnaires to various central stations requesting information on several subjects with regard to lighting.



A campaign on a utility lamp consisting of an RLM reflector and extension cord equipped with a holder combined with a hook for use in various locations in the home was explained, and Mr. Zimmerman brought out the fact that this campaign had been conducted by very few central stations.

A report of the Committee on Equipment and Practice was read by Mr. Geo. Stickney, in which he pointed out that there had been very little change in the design of existing lighting equipment including lamps and reflectors in the past year, but that some new equipment had been put on the market. This was explained and the general practice now in force was covered.

A report by Mr. Haas, on the Design of Street and Highway Lighting, which was to be presented before the Street Lighting Committee was read.

A discussion took place in regard to the idea of maintaining a permanent lighting school on the Pacific Coast. In this discussion points of the necessity of portable equipment, the plan of a school immediately after the N. E. L. A. convention in June, and the possibility of having such an exhibit in a university, such as the University of California were brought out. After considerable discussion a motion was made by Mr. Stickney that a lighting school, either permanent or portable, be established on the Pacific Coast. This motion was seconded by Mr. Luckiesh and it was carried unanimously.

Mr. Luckiesh began a discussion on the "best method of getting information and data compiled in the various reports to the people who could use it." He pointed out that although much time and efforts were spent on the reports of the various

committees these were often forgotten, and the person who could actually benefit from their use never saw them. A great many suggestions of various methods which could be used were made and the discussion became general. As the entire committee seemed to be very much interested in this subject, and no definite method could be decided upon, the chairman appointed a committee to act on the question.

## Electric Refrigeration Committee

By J. E. MILLER

THE Electric Refrigeration Committee held an all day session on Tuesday, March 17, at which time all of the committee members, except one, were either present or represented by proxy.

Our report will consist of a preface, which will cover the plan of operation followed in the committee work during the year. This will also cover the general status of the small electrically driven refrigerator as it exists now. The balance of the report will consist of six sections, being the specific reports of the sub-committee chairmen on particular phases of the problem.

The sub-committee reports will attempt to give in condensed form the vast amount of detail covered during the year.

Obviously, in attempting to make a report on an industry which is growing as rapidly as this, the committee's report, elaborate as it will be, cannot be considered as finished, but it will be comprehensive and up-to-date on all of the phases of this important development.

## Nashville's Most Valuable Citizen

"NASHVILLE'S most valuable citizen," thus was J. P. W. Brown, general superintendent of the Nashville Railway & Light Co., designated when he was presented the Kiwanis loving cup in recognition of his outstanding service to Nashville, Tenn., during 1924.

The following account is an excerpt from the Nashville *Banner* account of the presentation:

"The award of the Kiwanis cup was made by a joint committee representing the Rotary, Exchange, Lions, Civitan, American Business, Kiwanis and Optimist clubs and the Chamber of Commerce. The committee of award said in part:

"Sincerity, unostentatiousness of life and manner, modesty, keen business judgment, vision, Christian character, exceptional qualities of industrial, civic, social and religious leadership that have placed him in position of strategic importance in

have such splendid attributes been more lavishly blended than in the man whom we have gathered to honor today; and so outstanding are these qualities of mind and heart, and so valuable the service he has rendered to Nashville this year, that perhaps from this brief description you have already guessed his name."

Then followed a long citation of Mr. Brown's work in many fields of civic activity.

Mr. Brown first became connected with the electrical industry in Nashville 27 years ago.

## New Edition Transformer Standards

A NEW edition of "Transformer Standards of the Electric Power Club," Cleveland, Ohio, has just been issued, dated January, 1925. This contains all the new standards which have been adopted since the previous edition (1924) was printed and is up-to-date in every respect.

## New England Commercial Section Holds Remarkably Successful Meeting at Boston

ONE of the best meetings of the commercial section of the New England Division recorded in the long history of this geographic section was held at the Copley Plaza Hotel, Boston, Mass., March 20, Chairman J. Daniels presiding. President F. H. Smith of the New England division was unable to be present on account of illness, and a telegram wishing him speedy recovery was sent to Worcester at the opening of the session. The attendance included association officials and prominent members from as far West as Idaho.

A. Jackson Marshall, Secretary of the N.E.L.A., was the first speaker, and outlined the recent improvements in the organization of the association committee work which have already found wide favor. Chas. C. Munroe, chairman lighting bureau, reviewed the work of the lighting committee during the past year. The report pointed out the important field of development open in residence lighting, and estimated that there is about one billion dollars worth of wiring to be done to bring the homes of the country up to the so-called "conservative ideal" standard. During the year 308,198 kitchen lighting units were sold in ninety-eight cities, adding over one million dollars in central station revenue from the sale of electricity. These companies serve 25 per cent of all wired homes. Re-fixturing and relamping campaigns are proving worth while. Fifty thousand electric signs were erected in 1924, an increase of 20 per cent over 1923. The attractions of this class of business were set forth at length.

Mr. Munroe pointed out that an industrial educational lighting campaign will be launched this fall on a national scale. The growing tendency of central stations to establish illuminating engineering departments was favorably commented upon. Cooperation with architects is another topic deserving wider consideration, and the need of developing the lighting school idea for wider application was stressed.

B. J. Martin, Chairman Transportation Bureau pictured the future of the electric department in city service, predicting that horse transportation in large cities will be practically extinct in 1933 because of the congestion resulting from the use of animal transportation.

F. F. Kellogg, Chairman of the Customer Relations Bureau gave an excellent talk upon the Public Relations responsibilities to commercial department representatives, pointing out the contact of these men with the public as one of the most favorable means of developing good relations between utilities and their customers.

H. T. Sands, Vice-President N.E.L.A. pointed

out that no branch of the electric utility industry is devoid of public contacts. He emphasized the value of the commercial department contact, which lasts much longer than most of the other contacts between utility employees and the people whom they serve.

W. R. Putnam, Chairman Commercial Section, closed the morning session with an able address upon the importance of sound thinking as to public utility problems. The speaker pictured the extraordinary comforts of the American working man as compared with workers in other parts of the world, and urged that steps be taken to inform national legislators as to the true situation in public utilities.

E. W. Lloyd, General Contract Agent, Commonwealth Edison Company, Chicago, opened the afternoon session with a review of the development of the central station industry during the past decade. Mr. Lloyd emphasized the growing realization on the part of the public that here is an essential industry, worthy of financial support and progressive, and with a wonderful future.

V. M. F. Tallman, Chairman Power Bureau, gave an interesting address upon the responsibility of the modern central station power engineer, emphasizing his diverse interests, of value of his contacts in the community, and the constructive work which he can do in developing long-hour and off peak load business.

S. D. Heed, Chairman Commercial Section, East Central Division, pointed out that the commercial department of the modern central station is the impelling motive force back of its business. Mr. Heed condemned the use of underpaid and half educated salesmen by public utilities, contrasting the willingness of the executives to employ the most expert ability available in the design and construction of generating plants with their unwillingness to do the same thing in the commercial field. He commended the use of trial installations of house wiring and advocated the formation of definite sales plans in carrying out all commercial work.

C. O. Dunten, Springfield, Ill., in the absence of A. C. McMicken outlined the report of the Range Committee which will be presented at the San Francisco Convention.

T. F. Kennedy, Sales Manager, Henry L. Doherty Co., New York closed the afternoon session with a talk on salesmen's compensation. He described the method applied at Danbury, Conn., and in other properties under which the salesmen are paid a commission on the value of the merchandise sold, and are given other allowances based on the earnings of the company from a selected group of customers. for meter resets, sales of house wiring, etc.

# ACCIDENT PREVENTION

CHARLES B. SCOTT, *Chairman*  
*Accident Prevention Committee*

## Seven Westerners Receive Insull Medals for Resuscitation

SINCE the announcement in the January issue of the BULLETIN of four Insull medals awarded to employees of member companies for life saving by the Prone Pressure method of resuscitation seven additional medals have been presented.

It is worth noting that all seven men who were thus publicly honored as peace-time heroes reside in the West or Middle West. Three live in Ohio, one in California, one in Michigan, one in Wisconsin, and one in Indiana. Those who received the medals are: Charles Gillis Gaertner, an employee of the Southern California Edison Company; Jesse Palmer, Ohio Service Company; John G. Miller, Detroit Edison Company; Harold Eastman, Wisconsin Railway, Light & Power Company; E. E. Forrest, Gary Heat, Light & Water Company; Oscar E. Reid and W. H. Taylor, Dayton Power & Light Company.

A brief history of each case and a short account of the presentation follows:

### Charles Gillis Gaertner

*History of Case*—On Nov. 15, 1923, Charles G. Gaertner, an employee of the Southern California Edison Company, successfully resuscitated K. E. Kincaid, a fellow employee. Kincaid, while placing a barrier between two circuits at the Santa Paula sub-station, missed his footing and fell, coming in contact with a live disconnect switch of the 15,000 volt service. Gaertner applied the prone pressure method, and after ten minutes' application Kincaid breathed without assistance. He was later treated for burns by a physician.

*Presentation*—The medal was presented by Mr. J. M. Buswell, acting as Mr. Samuel Insull's representative in the presentation ceremonies at the annual banquet meeting of the Santa Paula Chamber of Commerce on Jan. 16, 1925. There were eighty members and guests present including some of the staff of the Southern California Edison Company.

### Jesse Palmer

*History of Case*—About 11 a. m., Nov. 28, 1922, C. C. Weaver, an employee of the Ohio Service Company, while working on a pole at New Philadelphia, near the Country Club house, accidentally came in contact with live lines and was rendered unconscious. After Weaver was lowered down from the pole by fellow workers, Jesse Palmer, employed as line foreman by the Ohio Service Company, applied the prone pressure method of resuscitation.

Resuscitation was started about five minutes after Weaver received the shock, and after approximately twenty minutes' application the patient breathed without further assistance. Doctor E. B. Shanley arrived on the scene about thirty minutes after the accident occurred and treated Weaver for severe burns on right and left hands.

*Presentation*—The medal was presented by Mr. R. N. Graham, representing Mr. Samuel Insull.

### John G. Miller

*History of Case*—At 3.20 p. m. on August 2, 1923, John G. Miller, an employee of the Detroit Edison Company successfully resuscitated Edward Archanvauld, a painter, after about eight minutes. Archanvauld was washing the ceiling in the Cortland Substation just above a live 4600 volt transformer bus lead. While working in close quarters his arm came in contact with a live insulated bus lead, the insulation failing and an arc jumping to his arm near the unit, the circuit being completed through the other hand which was touching a pipe support. In addition to being knocked out completely, he received a bad burn on one arm near the wrist, slight burns on both hands, and a bad gash in the head close to the eye, which resulted from striking a step-ladder in falling.

Miller applied the prone pressure method of resuscitation within two minutes and carried on without assistance for about five minutes, or until the patient showed signs of life. Miller's helper then worked on Archanvauld for three more minutes, until he breathed without assistance. Fifteen minutes after the accident the patient was taken to the Highland Park General Hospital.

*Presentation*—Medal was presented to Mr. Miller at a meeting of the Edison Electrical Club in Detroit Mich., Feb. 25, 1925.

### Harold Eastman

*History of Case*—At 9.30 a. m., April 26, 1924 Harold Eastman, employed by the Wisconsin Railway, Light & Power Company at Winona, Minn., successfully resuscitated William English by the use of the prone pressure method. English was working on a pole at Biesanz Brick Yards, Winona, Minn., his duties requiring inspection of transformer fuses and primary cutouts in an effort to locate trouble on distribution feeder supplying the Biesanz Brick Yards. One phase of the feeder was grounded through a defective current transformer at a sub-station just beyond the brick yards. He was re-

moving the primary cutouts, and in doing so swung around from the right side of the pole to the left side, preparatory to climbing down the pole. In doing this his head came in contact with a live primary line just above him and he dropped twelve feet to the ground landing alongside of Mr. Eastman in such a manner that he injured his face.

Eastman immediately placed English in position and began application of the prone pressure method. After about ten minutes' application the patient breathed without further assistance. He was then removed to the Winona General Hospital, where he remained for a day and a half, receiving treatment for a slight burn on the head.

*Presentation*—Medal was presented by Mr. R. M. Howard at a public meeting held at the armory at Winona, Minn., on March 5.

E. E. Forrest

*History of Case*—At about 9 a. m., Nov. 1, 1924, Rudolph Kemp, an employee of the Gary Heat, Light & Water Company of Gary, Ind., while engaged in transferring a three-phase, 6600 volt, 25 cycle line on pole east of Broadway, north of Little Calumet River, Gary, Ind., to a new set of double cross-arms (installed directly underneath the old cross-arms), accidentally came in contact with live line. While tying the No. 2 stranded bare copper line wire on the insulator, the end of the tie wire touched his right arm just above the top of his rubber glove, resulting in burns about three inches below the elbow and on the left knee.

It is assumed that when reaching to tie in the line, Kemp's knee came in contact with some grounded object on the pole when the tie wire touched his arm above the glove. He jerked clear of the line and fell forward. W. H. McBride, a fellow worker, pushed him back from the other live wires and lowered him down from the pole with the assistance of N. W. Sieckman and C. H. Shafer. Mr. E. E. Forrest, electrical engineer of the Gary Heat, Light & Water Company immediately applied the prone pressure method of resuscitation, which was continued for about fifteen minutes before the patient showed signs of life. As soon as natural respiration was started, Kemp was removed to the Illinois Steel Company Hospital, where his burns were given medical attention. He recovered after being in the hospital for a few hours and was able to go home.

*Presentation*—The medal was presented by Mr. Isaiah Gordon, acting as Mr. Samuel Insull's representative, at a banquet held in the Y. M. C. A. at Gary, Ind., March 5, 1925.

Oscar E. Reid  
W. H. Taylor

*History of Case*—At 9.30 a. m., October 7, 1924, Oscar C. Malott, an employee of the Dayton Power

& Light Company, was climbing a steel tower at Ridge Avenue, Dayton, Ohio, preparatory to painting it, when he accidentally came in contact with the 6600-volt line, which knocked him from his position on the tower to the ground, a distance of approximately twenty-five feet. W. H. Taylor, who was on the ground at the base of the pole, immediately endeavored to apply the prone pressure method of resuscitation. At the time of the accident Malott had his safety belt on, and while Taylor proceeded to remove it he signalled to Oscar E. Reid, a fellow employee, who was working approximately 700 feet away. Reid responded to the signal and, being more experienced in the application of the prone pressure method, immediately started resuscitation. After about ten minutes' application, Malott regained consciousness and was removed in an ambulance to Miami Valley Hospital.

In addition to a third degree burn on the right elbow, Malott sustained injuries from the fall resulting in the fracture of pubic ramus, fracture and separation of symphysis pubis, fracture of sacrum linear.

*Presentation*—The medals were presented by Mr. L. M. Brown, acting as Mr. Samuel Insull's representative, at a meeting at the Engineers' Club, Dayton, Ohio, March 4, 1925.

## Only One Accident in 18,000 Working Days

"WITH the storms and floods encountered during the past year, the three gas and electric crews in Council Bluffs have an enviable record," Roy Paige, assistant general manager of the Nebraska Power Company, told sixty-five workers for the Citizens' Gas & Electric Company. The men were entertained at the first annual Safety-first banquet at the Grand Hotel, Council Bluffs.

"Only one accident, with two days' loss of time in 18,000 working days, is remarkable" Paige said. "The accident was the result of one man stepping on a spike."

K. R. McKinnard, power superintendent, Omaha, told the men the scarcity of accidents was not the result of the stringent rules laid down by officials.

The banquet was tendered the gas workers and electric linemen in recognition of their splendid work, Col. A. L. English, manager of the Council Bluffs Company, said. Other speakers at the banquet were Ralph Waters, welfare superintendent; Howard Butler, assistant manager, Council Bluffs; H. C. Holder, superintendent of the gas plant; F. R. Starr, superintendent of the electric district; Vern Fields, superintendent of the gas district.—*Omaha Daily News*.



# NEW N. E. L. A. MEMBERS

*Public Utilities and Employees, Invited Persons, Manufacturing Companies and Employees, Associated Companies and Employees, and Foreign Companies Who Have Recently Become Members of the National Electric Light Association*

Individual's place of residence in parentheses

## Employees of Electric Light & Power Companies— (Class B)

*California, Los Angeles, Southern California Edison Company*  
C. B. Carlson (Venice) N. B. Hinson  
Geo. E. Decker (Alhambra) R. W. Peabody  
Verne D. Elliott (Pasadena) Charles Heston Peirson  
H. L. Sampson

*California, San Francisco, Pacific Gas & Electric Company*  
Harry Abernethy (San Leandro) C. I. Kirtley (Oakland)  
Arthur C. Adams (Oakland) H. Kramer  
A. C. Archbold (Oakland) P. I. Kurtz (Burney)  
Gilbert S. Bailey Howard Little (Oakland)  
M. J. Belloni, Jr. (Marysville) D. G. Martin  
C. E. Bentley Spencer Moore  
C. L. Bez (San Leandro) W. B. Morton  
P. S. Booth L. M. Nass  
H. E. Bradley (Oakland) E. M. Newlan  
J. L. Brown (La Grange) W. F. Noggle (Red Bluff)  
O. Brown E. F. Perkins (Oakland)  
L. D. Burlingame (Sacramento) W. F. Pinckert  
H. E. Butler R. R. Pratt (Oakland)  
H. L. Camper (Emigrant Gap) R. D. Reeve (Burney)  
R. S. Carrothers (Piedmont) H. H. Robison (Oakland)  
A. A. Charonnat C. H. Rulofson  
F. R. Clisham L. N. Sachs  
Arthur Coatney (Tehama) S. I. Sandburg  
Henry S. Conder (Oakland) Albert Seidl (San Rafael)  
F. B. Cook C. J. Sellmer  
T. B. Copeland (Redding) C. F. Sherman (Oakland)  
D. K. Coyle (San Jose) A. Sippey  
E. W. Deane H. H. Singletary (Proberta)  
R. E. Dilly (Marysville) Frank L. Smith  
D. F. Dinapoli Harvey L. Smith (East Nicolaus)  
Rudolph Dresel (Oakland) L. C. Smith (Burney)  
E. O. Dreyer W. G. Smith (San Rafael)  
Robert W. Durham (Chico) W. Tachudy  
J. W. Ellis H. R. Valentine (Marysville)  
E. T. Erskine (Auburn) L. B. Stein  
G. H. Eveland Eugene Stoddard (Red Bluff)  
Paul J. Freygang E. T. Sumner  
H. A. Gould O. Sundblad  
H. Grondorf W. J. Van Winkle (Burney)  
J. H. Gums Harry Von Arx (Oakland)  
J. O. Harvey B. W. Waters  
E. W. Hodges G. M. Wehrle (Burney)  
R. E. Holmes (Oakland) G. P. Welschke (Chico)  
J. H. Hunt F. G. Whitworth  
W. E. Kelly (Oakland) E. G. Wilcoxon (Auburn)  
David G. Kilgour (Oakland)

*Connecticut, Hartford, The Hartford Electric Light Company*  
James A. Mitchell

*Florida, St. Petersburg, St. Petersburg Lighting Company*  
Miss Lois E. Adams

## Idaho, Boise, Idaho Power Company

George W. Anthony R. W. Mangum (Glenns Ferry)  
A. W. Ashton (Pocatello) H. W. Meacham (Caldwell)  
W. V. Bailey I. B. McLain  
F. L. Brady (Mountain House) Robert W. Miller  
L. M. Brainard (Pocatello) C. A. Miller (Twin Falls)  
D. C. Brown (Pocatello) Chas. Neely (Twin Falls)  
R. W. Carpenter (Nampa) Floyd Norman (Twin Falls)  
Orvil Christopherson (Jerome) E. H. Oliphant (Buhl)  
J. F. Cooper John D. Orr (Payette)  
C. O. Crane W. E. Parrott  
J. W. Crowe F. H. Pollard (Twin Falls)  
James A. Edwards (American Falls) A. I. Priest  
Myron M. Foster (Blackfoot) R. E. Reynolds (Twin Falls)  
R. E. Gale Kinsey M. Robinson (Payette)  
Alex D. Higen (Payette) W. N. Rowberry (Twin Falls)  
George H. Hofman (Buhl) B. C. Russell  
M. E. Hughes A. I. Sawyer (Payette)  
Fred M. Ingraham (Twin Falls) Henry L. Senger  
Robert D. Jefferson Ralph A. Schaeffer  
C. W. Kelly (Twin Falls) H. O. Stains (Blackfoot)  
F. C. Kiersted R. C. Stimson (Twin Falls)  
R. B. King S. L. Sullivan (Jerome)  
Jay Jesse Lockie (Twin Falls) J. E. Sutton (Twin Falls)  
J. E. Joslyn (Twin Falls) C. E. Tappan  
J. O. Malvin Merrill L. Taylor (Twin Falls)  
A. L. Morgan (Pocatello) Frank L. Thompson (Twin Falls)  
Guy Mangum (Payette) W. O. Watts (Caldwell)  
Ed. A. Woodhead C. C. Wilson (Twin Falls)

*Illinois, Chicago, Commonwealth Edison Company*  
Harry R. Jones I. L. Rush  
Eugene A. Ryan

*Illinois, East St. Louis, East St. Louis Light & Power Company*  
Miss Cecilia Girard Miss Mabel W. Miller

*Illinois, Springfield, Central Illinois Public Service Company*  
Miss Ruth C. Cook (Marion) Miss Margaret Duckworth (Watseka)

*Kansas, Lawrence, The Kansas Electric Power Company*  
David W. Jones

*Massachusetts, Franklin, Union Light & Power Company*  
Mrs. L. A. Fiorani

*Massachusetts, Haverhill, Haverhill Electric Company*  
Edward M. Evans

*Massachusetts, New Bedford, New Bedford Gas & Edison Light Company*

Peter Cornelius Dirkson, Jr.

*Michigan, Detroit, The Detroit Edison Company*  
E. W. Baldwin G. Matthews  
P. D. Foster C. E. Mowrer  
Samuel Fraser (Rochester) Walter W. O'Dell  
H. H. Jackson L. G. O'Hara  
J. L. MacLeod R. J. Palmer

L. C. Provencher

*Nebraska, Grand Island, Central Power Company*  
E. H. Vierregg

*New Jersey, Newark, Public Service Electric & Gas Company*  
Cornelius N. Allen (Orange) Geo. Leidenstricker (Bayonne)  
Edward Bailey Frederick Lynn  
Oscar Bauhan Lewis Metinger  
John Baumgarten H. P. Morehouse  
John J. Benden (Bound Brook) Fred A. Neis  
Edwin T. Brewer John J. Pastor (Bayonne)  
Herbert Burk (Belleville) William Peacock  
Philip Henry Clark, Jr. Edgar E. Ruple (New Brunswick)  
A. E. Cook D. R. Sanson (Perth Amboy)  
Arthur L. Davey (Beverly) Paul H. Schultz (Trenton)  
Walter A. DeVal (Bayonne) A. L. Simkins (Burlington)  
Walter S. R. Dickinson Theodore L. Smith  
Frank L. Dumont Edward F. Stauderman (Mt. Vernon, N. Y.)  
James Y. Duncan (Arlington) G. M. Stoothoff  
Addison H. Gee (Passaic) Harry A. Stutton  
L. Genevino John Russell Taylor (Camden)  
Irving D. Harris Thomas E. Tilden (Bayonne)  
George L. Heck (Jersey City) I. O. Tilley  
Eugene E. Heinzinger Percy H. Trumper (Bayonne)  
Richard S. Hill J. A. Wallace  
Amos B. Hostetter, Jr. Joseph James Wenner (Camden)  
John A. Inwright (Bayonne)  
William E. Karg (Mt. Holly)

*New York, Far Rockaway, Queens Borough Gas & Electric Company*  
Philip Addison (Rockaway Beach) Gordon W. DeGrishe  
William J. Bolton David Dinan  
Joseph E. Baird Irwin H. Jackson  
Daniel J. Carpenter George C. Spellman  
Henry F. Wagner

*New York, Long Island City, New York & Queens Electric Light & Power Company*

Ellis M. Barnes Michael A. Michaels  
Jack R. Grant (Elmhurst) Henry J. Seuling (Flushing)  
J. H. Long (Ridgewood) Edward Turner (Flushing)

*New York, Mount Vernon, Westchester Lighting Company*  
F. J. Gruel (Yonkers) John J. Kelsh (Yonkers)

*New York, Brooklyn, Brooklyn Edison Company, Inc.*  
Thomas C. Bruns Leonard K. Murphy  
Thomas J. Collins Joseph H. Promecene  
Edward N. Davis W. Ward Cillaverde  
Robert J. Hayward Melville J. Sutphen  
Lester N. Mencilly Harold E. Weeks (New York City)

*New York, New York City, General Engineering & Management Corporation*

J. J. Cagney

*New York, New York City, New York Edison Company*  
Walter Enmet Addis Robert J. McCormack (Bronx)  
Richard L. Arvidson Charles W. McCullough (Brooklyn)  
Joseph Brown Charles McDonald  
G. H. Betz (Paterson, N. J.) John G. Meyer  
Joseph S. Dilhatis William O'Hara (Hollis, Queens, L. I.)  
Stephen E. Faherty Joseph P. O'Neill  
Edward K. Flanagan Evans E. Presley (Brooklyn)  
Paul Framheim Henry C. Reynolds (Bronx)  
Fred N. Haehner Theodore I. Stry, Jr. (Clason Point, Bronx)  
Frank E. Hanchette John T. Wells (Mamaroneck)  
Charles E. Hendricks, Jr.  
John Hewitt Hyland  
Frank J. Higgins

*New York, Poughkeepsie, Central Hudson Gas & Electric Company*  
Herbert H. Skinner

*New York, Rochester, Rochester Gas & Electric Corporation*  
Walter S. Burch Howard Harding

**North Carolina, Raleigh, Carolina Power & Light Company**

R. L. Chandler (Southern Pines) I. F. Harrison  
G. W. Bacon S. Murray Jones  
George J. Roewe

**Oregon, Portland, Pacific Power & Light Company**

Henry Anderson (White Salmon, Geo. Hibbert, Jr. (Toppenish, Wash.)  
H. E. Baker (Hood River) R. J. Jenks (Lewiston, Idaho)  
Glenn L. Corey Geo. W. Turner (Pomeroy, Wash.)  
John C. Gest (Prosser, Wash.)  
Fred W. Vincent (Pendleton)

**Pennsylvania, Altoona, Penn Central Light & Power Company**

Miss Mary M. Algoe Miss Aileen M. Ronan  
John S. Cassidy Miss Marie Ronan  
Austin J. Craver (Patton) Miss Mary Shucker  
C. R. Gibbons Verna Soyster  
Harry Frank Grose (Huntingdon) Miss Mildred C. Stom  
Miss Margaret E. Hauser J. R. Straney  
Miss Marian McCann Miss Helen Wiederker  
Robert E. Mitchell (Portage) Lewis A. Young (Saxton)  
Miss Elsie Zimmers

**Pennsylvania, Reading, Metropolitan Edison Company**

W. R. Turner

**Tennessee, Bristol, Bristol Gas & Electric Company**

Miss Myrtle Britt

**Tennessee, Memphis, Memphis Power & Light Company**

George A. Brokaw, Jr.

**Texas, San Antonio, San Antonio Public Service Company**

Miss Mary Buttimer Paul H. Olls

**Vermont, Brattleboro, Twin State Gas & Electric Company**

Henry R. Lefebvre (Berlin)

**Washington, Seattle, Puget Sound Power & Light Company**

R. M. Boykin A. C. Riggs (Bellingham)  
N. W. Brockett George C. Sears (Dieringer)

**D. J. Graham (Wenatchee)**

John Harisberger  
Joseph Hellenthal  
C. L. Hill (Tacoma)  
C. H. Hoge

**L. M. Shreve (Wenatchee)**

E. T. Steel (Portland, Ore.)  
R. E. Thatcher  
Dwight Ware  
H. G. Winsor

**Wisconsin, Lake Geneva, Southern Wisconsin Electric Company**

Miss Mildred Manley

**Employees of Manufacturer Companies—(Class E)****Connecticut, Hartford, Johns Pratt Company**

D. G. Phelps

**Illinois, Chicago, Benjamin Electric Mfg. Company**

R. M. Prior (Detroit, Mich.) M. L. Tice (Baltimore, Md.)  
Wm. A. Gale (Indianapolis, Ind.)

**Michigan, Detroit, Eureka Vacuum Cleaner Company**

John B. Tubergen (San Francisco, Cal.)

**Pennsylvania, Pittsburgh, Aluminum Company of America**

Howard W. Flye (San Francisco, Cal.)

**New York, New York City, DeLaval Separator Company**

J. V. Shepard (San Francisco, Cal.)

**New York, Schenectady, General Electric Company.**

L. F. Adams G. J. Lowell (New York City)  
T. S. Bacon (New York City) E. P. Markee (Los Angeles, Cal.)  
L. T. Blaisdell (Dallas, Tex.) H. A. McCrear  
F. R. Deakins Robert Miller (Salt Lake City, Utah)  
J. W. Dodge K. A. Pauly  
C. W. Falls H. T. Plumb (Denver, Colo.)  
F. B. Hathaway (Oklahoma City, Okla.) F. C. Pratt  
R. S. Heath (Denver, Colo.) I. W. Sclater (Pittsfield, Mass.)  
T. Johnson, Jr. A. L. Spring (Los Angeles, Cal.)  
L. M. Kilgore (Pittsfield, Mass.) H. O. Stephens (Pittsfield, Mass.)  
C. H. Lang H. A. White (El Paso, Tex.)  
C. E. Lee (Pittsfield, Mass.) E. M. Wise (Houston, Tex.)

## Trips to San Francisco and Chattanooga Conventions Offered in Essay Contest

A FREE trip to the 1925 convention of the N. E. L. A. at San Francisco, June 15-19, has been offered by the Southeastern Division N. E. L. A., as a grand prize for the best essay on "Public Utilities and Their Relations With the Public." The contest is sponsored by the Women's Public Information Committee, and all women members, except division, national and State chairmen are eligible.

In addition, as a means of stimulating interest in the contest on the part of the women employees of Alabama Power Company, President Martin and Mr. Yates have very graciously consented to offer four free trips to the 1925 convention of the Southeastern Division at Chattanooga, about May 15, for the four best essays on this subject.

Contests will be conducted simultaneously by as many member companies of the Southeastern Division as elect to do so, each company setting up its own prizes, judges, etc., only the points to be covered in the essay being adhered to in all the contests. The winning essays of the several company contests will be certified as winners to the chairman of the Judging Committee and will then be eligible for competition in the grand prize to be awarded by the Southeastern Division.

All company contests will close April 15, and all winning essays must be in the hands of the Judging Committee for the Southeastern Division by May 1.

## Forty-Three Awards to General Electric Employees

FORTY-THREE General Electric Company employees have received Charles A. Coffin Foundation awards for having made most signal contributions toward the increase of the company's efficiency or progress in the electrical art during 1924. Twelve of the prizes were won by shop men, five by foremen, fifteen by engineers, and seven by commercial men. Four special awards were made for the presentation of papers at company meetings. With each certificate of award there is a prize of \$250.

Schenectady employees received sixteen awards, Lynn eight, the Edison and National Lamp Works four each, and Pittsfield three. Philadelphia, Buffalo, Erie, Minneapolis, New York, Salt Lake City, Chicago and San Francisco office employees received one each.

The purpose of the employees' awards, established by the board of directors of the General Electric Company in 1922 as an expression of the appreciation of the company for the work in the electrical industry of its founder, Charles A. Coffin, is recognition for unusual service rendered by employees in their work. All employees have equal chances—the work of the shop man is not compared with that of the engineer, but with that of other shop men. One class does not have preference over another.

# CONVENTIONS AND MEETINGS

*Meetings of the National Electric Light Association committees and bureaus are shown in Roman type; those of other associations in Italics*

## April

- 1 Committee on the Association's Dues, N. E. L. A. Headquarters, New York, N. Y.
- 1 Cooperation with Educational Institutions Committee, Ann Arbor, Mich.
- 9 Executive Committee, Public Relations, National Section, Louisville, Ky.
- 10 Executive Committee, Accounting National Section, N. E. L. A. Headquarters, New York, N. Y.
- 13 Group Meeting, N. E. L. A. and A. G. A. Representatives on Joint Committee on Theft of Gas and Electric Current, N. E. L. A. Headquarters, New York, N. Y.
- 14 National Executive Committee, N. E. L. A. Headquarters, New York, N. Y.
- 15 Public Policy Committee, N. E. L. A. Headquarters, New York, N. Y.
- 16 Electrification of Steam Railroads Committee, N. E. L. A. Headquarters, New York, N. Y.
- 20-21 Prime Movers Committee, Detroit, Mich.
- 21-24 Southwestern Geographic Division Convention, Eastman Hotel, Hot Springs, Ark.
- 21-24 Arkansas Utilities Association, Hot Springs, Ark.
- 23-25 American Electrochemical Society, Niagara Falls, N. Y.

## May

- 5-8 Southwestern Public Service Association Convention, Houston, Texas.
- 12-14 National Fire Protection Association, Congress Hotel, Chicago, Ill.

- 18-21 American Society of Mechanical Engineers, Milwaukee, Wis.
- 19-22 Electrical Manufacturers Club, Hot Springs, Va.
- 20-22 Middle West Geographic Division, Hotel Fontenelle, Omaha, Neb.
- 20-22 Nebraska Section, Hotel Fontenelle, Omaha, Neb.
- 21-22 Georgia Electrical Association, Atlanta, Ga.
- 25-28 Electric Power Club, Homestead Hotel, Hot Springs, Va.

## June

- 2-5 Electrical Supply Jobbers Association, Hot Springs, Va.
- 3-4 Iowa Section, Waterloo, Iowa.
- 3-4 Iowa Electric Railway Association, Waterloo, Iowa.
- 7-9 Missouri Association of Public Utilities, Joplin, Mo.
- 8-13 Associated Manufacturers of Electrical Supplies, Homestead Hotel, Hot Springs, Va.
- 15 Pacific Coast Electrical Association, San Francisco, Cal.
- 15-19 National Electric Light Association Convention, Exposition Auditorium, San Francisco, Cal.
- 22-25 American Society of Mechanical Engineers, Portland, Ore.

## October

- 5-12 American Electric Railway Association, Atlantic City, N. J.
- 19-22 Electric Power Club, Briarcliff Lodge, Briarcliff Manor, N. Y.

## Utilities Advertising Association Convention Program

THE two-day convention of the Public Utilities Advertising Association to be held in Houston, Tex., May 12 and 13 promises a most attractive program.

W. H. Hodge, president of the association, will deliver the opening address at the first session. The program for the convention follows:

### *First Session—Tuesday Afternoon, May 12*

"Costs and Results," E. Paul Young, Illinois Power & Light Corporation, Chicago; "Better Copy," I. M. Tuteur, vice-president, McJunkin Advertising Company, Chicago; discussion, led by LaBert St. Clair, American Electric Railway Association, New York; "Interesting Facts About the Exhibit," Edward J. Cooney, Lowell, Mass.; "Membership Campaign Results," Dana H. Howard, superintendent advertising department, Commonwealth Edison Company, Chicago; "The Association Bulletin," Donald M. Mackie, advertising manager, Consumers Power Co., Jackson, Mich.; "Employment

Opportunities," Leonard Ormerod, general information manager, Bell Telephone Company, Philadelphia, Pa.

### *Second Session—Wednesday Morning, May 13*

"Keeping the Organization Abreast of Its Advertising," P. C. Staples, vice-president, Bell Telephone Company of Pennsylvania; "Relation of Advertising Agency to Public Utility Advertising," C. R. Winters, president, Central Advertising Agency, Wichita, Kan., for the agency, and George Ade Davis, assistant to vice-president and general manager, Oklahoma Gas & Electric Company, Oklahoma City, for the company placing its advertising direct; "The Use of Motion Pictures by Public Utilities," Marshall E. Sampsell, president, Illinois Public Service Company, Chicago; "Good-will and Institutional Advertising," J. C. Jordan, Pacific Gas & Electric Co., San Francisco; George McQuaid, director, Texas Public Utility Information Bureau, Dallas, and B. J. Mullaney, vice-president, Peoples Gas Light & Coke Co., Chicago.

The association extends a cordial invitation to all who are interested in public utility advertising to attend the sessions.

# N. E. L. A. COMMITTEES

for

1924-1925

*Chairmen's names only listed here*

## SPECIAL NATIONAL COMMITTEES

- Charles A. Coffin Prize Committee—Franklin T. Griffith, Portland Electric Power Co., Portland, Ore.
- Constitution and By-Laws Committee—W. C. L. Eglin, The Philadelphia Electric Co., Philadelphia, Pa.
- Electrical Resources of the Nation Committee—C. E. Groesbeck, Electric Bond & Share Co., New York, N. Y.
- Electrification of Steam Railroads Committee—Frank R. Coates, Henry L. Doherty & Co., New York, N. Y.
- Exhibition Committee—O. L. Pierce, Jr., Hubbard & Co., Pittsburgh, Pa.
- Finance Committee—Jos. B. McCall, The Philadelphia Electric Co., Philadelphia, Pa.
- Lamp Committee—Frank W. Smith, The United Electric Light & Power Co., New York, N. Y.
- Prize Awards Committee—W. H. Onken, Jr., *Secretary, Electrical World*, New York, N. Y.
- Public Policy Committee—Martin J. Insull, Middle West Utilities Co., Chicago, Ill.
- Rate Research Committee—Alex Dow, The Detroit Edison Co., Detroit, Mich.
- Water Power Development—W. B. Creed, Pacific Gas & Electric Co., San Francisco, Cal.

## GENERAL NATIONAL COMMITTEES

- \*Educational Committee—Fred R. Jenkins, Commonwealth Edison Co., Chicago, Ill.
- \*Insurance Committee—Charles B. Scott, Bureau of Safety, Chicago, Ill.
- \*Membership Committee—Howard K. Mohr, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Rural Electric Service Committee—G. C. Neff, Wisconsin Power Light & Heat Co., Madison, Wis.
- \*Wiring Committee—E. S. Hale, The Edison Electric Illuminating Co., Boston, Mass.

## ACCOUNTING NATIONAL SECTION

- \*Section's Executive Committee—W. Paxton Little, The Niagara Falls Power Co., Niagara Falls, N. Y.
- \*Budget Committee—Robert B. Grove, The United Electric Light & Power Co., New York, N. Y.
- \*Classification of Accounts and Annual Reports Committee—W. J. Meyers, The United Electric Light & Power Co., New York, N. Y.
- \*Customers' Records and Billing Methods Committee—W. H. Cassell, Consolidated Gas, Electric Light & Power Co., Baltimore, Md.
- \*Filing and Preservation of Records Committee—Franklyn Heydecke, Public Service Electric & Gas Co., Newark, N. J.
- \*Fixed Capital Records Committee—G. U. Stewart, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Pay Roll Standardisation Committee—W. J. Vega, The New York Edison Co., New York, N. Y.
- \*Purchasing and Storeroom Accounting Committee—K. C. Campbell, The Detroit Edison Co., Detroit, Mich.
- Securities Accounting Committee—T. A. Wallace, Henry L. Doherty & Co., New York, N. Y.

## COMMERCIAL NATIONAL SECTION

- \*Section's Executive Committee—W. R. Putnam, Idaho Power Co., Boise, Idaho.
- \*Appliance Committee—Thomas W. Berger, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Customer Relations Committee—F. F. Kellogg, Duquesne Light Co., Pittsburgh, Pa.
- \*Electric Cooking and Heating Committee—A. C. McMicken, Portland Electric Power Co., Portland, Ore.
- Electric Refrigeration Committee—G. B. Miller, The Cleveland Electric Illuminating Co., Cleveland, Ohio.
- Industrial Lighting Committee—Joseph F. Becker, The United Electric Light & Power Co., New York, N. Y.
- \*Lighting Committee—Charles C. Munroe, The Detroit Edison Co., Detroit, Mich.
- \*Power Committee—V. M. F. Tallman, Charles H. Tenney & Co., Boston, Mass.
- Radio Committee—E. W. Lloyd, Commonwealth Edison Co., Chicago, Ill.
- Street and Highway Lighting Committee—E. W. Lloyd, Commonwealth Edison Co., Chicago, Ill.
- \*Transportation Committee—B. J. Martin, Commonwealth Edison Co., Chicago, Ill.

## PUBLIC RELATIONS NATIONAL SECTION

- \*Section's Executive Committee—M. S. Sloan, Brooklyn Edison Co., Inc., Brooklyn, N. Y.
- Advertising Survey Committee—Joseph B. Groce, The Edison Electric Illuminating Co., Boston, Mass.
- \*Cooperation with Educational Institutions Committee—John O. Parker, Brooklyn Edison Co., Inc., Brooklyn, N. Y.
- \*Customer Ownership Committee—A. Emory Wihon, San Joaquin Light & Power Corp., Fresno, Cal.
- \*Industrial Relations Committee—Homer B. Nisem, Commonwealth Edison Co., Chicago, Ill.
- \*Information Bureau Organization Committee—H. C. Abell, Electric Bond & Share Co., New York, N. Y.
- Manufacturers' Advertising Committee—J. C. McQuiston, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
- \*Public Speaking Committee—W. S. Vivian, Middle West Utilities Co., Chicago, Ill.
- \*Relations with Financial Institutions Committee—M. S. Sloan, Brooklyn Edison Co., Inc., Brooklyn, N. Y.
- Uniformity of State Regulatory Laws Committee—W. W. Freeman, The Union Gas & Electric Co., Cincinnati, Ohio.
- \*Women's Public Information Committee—Miss R. M. McKee, Middle West Utilities Co., Chicago, Ill.

## TECHNICAL NATIONAL SECTION

- \*Section's Executive Committee—H. P. Liveridge, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Accident Prevention Committee—Charles B. Scott, Bureau of Safety, Chicago, Ill.
- \*Electrical Apparatus Committee—A. A. Meyer, The Detroit Edison Co., Detroit, Mich.
- \*Hydraulic Power Committee—E. L. Hearn, The Washington Water Power Co., Spokane, Wash.
- \*Inductive Coordination Committee—H. S. Phelps, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Meter Committee—B. Currier, The Philadelphia Electric Co., Philadelphia, Pa.
- \*Prime Movers Committee—Nicholas Stahl, Narragansett Electric Lighting Co., Providence, R. I.
- \*Overhead Systems Committee—W. G. Kelley, Commonwealth Edison Co., Chicago, Ill.
- \*Underground Systems Committee—W. H. Cole, The Edison Electric Illuminating Co., Boston, Mass.

\* Provision is made for a representative from each geographic division.



# GEOGRAPHIC DIVISIONS

UNIVERSITY OF MICHIGAN



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Geographic Divisions, States embraced, State Associations and Sections, and names and addresses of Presidents and Secretaries. Please advise Headquarters of any inaccuracies or changes occurring.

## CANADIAN DIVISION

(Entire Dominion of Canada)

### Canadian Electrical Association

*President*, R. J. BEAUMONT, The Shawinigan Water & Power Co., Montreal, Que.; *Secretary*, LOUIS KOW, Room 311, Power Bldg., Montreal, P. Q.  
(This Division Has No State [Provincial] Sections.)

## EASTERN DIVISION

(New Jersey, New York, Pennsylvania)

*President*, G. M. GADSBY, West Penn Power Co., Pittsburgh, Pa.; *Secretary*, HAROLD A. BUCH, 211 Locust St., Harrisburg, Pa.

### Empire State Gas and Electric Association

*President*, M. S. SLOAN, Brooklyn Edison Co., Inc., Brooklyn, N. Y.; *Secretary*, CHARLES H. B. CHAPIN, Grand Central Terminal, New York, N. Y.

### Pennsylvania Electric Association

*President*, G. M. GADSBY, West Penn Power Co., Pittsburgh, Pa.; *Secretary*, HAROLD A. BUCH, 211 Locust St., Harrisburg, Pa.

## EAST CENTRAL DIVISION

(Kentucky, Ohio, West Virginia)

*President*, T. O. KENNEDY, Ohio Public Service Co., Cleveland, Ohio; *Secretary-Treasurer*, D. L. GASKELL, The Greenville Electric Light & Power Co., Greenville, Ohio.

### Kentucky Association of Public Utilities

*President*, J. P. POPE, Kentucky Traction & Terminal Co., Lexington, Ky.; *Secretary-Treasurer*, E. F. KELLY, Louisville Ry. Co., Louisville, Ky.

### Public Utilities Association of West Virginia

*President*, MENTOR HETZER, Moundsville Water Co., Moundsville, W. Va.; *Secretary*, A. BLISS McCORM, 514 Charleston National Bank Bldg., Charleston, W. Va.

## GREAT LAKES DIVISION

(Illinois, Indiana, Michigan, Wisconsin)

*President*, MARSHALL E. SAMPELLE, Central Illinois Public Service Co., Chicago, Ill.; *Secretary*, R. V. PRATHER, Illinois Mine Workers Bldg., Springfield, Ill.

### Illinois State Electric Association

*President*, BERT H. PRICK, Illinois Power & Light Corp., St. Louis, Mo.; *Secretary-Treasurer*, R. V. PRATHER, Illinois Mine Workers Bldg., Springfield, Ill.

### Indiana Electric Light Association

*President*, T. A. WYNN, Indiana Light & Heat Company, Indianapolis, Ind.; *Secretary*, THOMAS DONOHUE, 622 Ferry Street, Lafayette, Ind.

### Michigan Section

*President*, ROY T. DUNCAN, The Detroit Edison Co., Detroit, Mich.; *Secretary-Treasurer*, HERBERT SILVESTER, The Detroit Edison Co., Ann Arbor, Mich.

### Wisconsin Utilities Association

*President*, G. C. NEPP, Wisconsin River Power Co., Madison, Wis.; *Executive Secretary*, JOHN N. CADRY, 445 Washington Bldg., Madison, Wis.

## \*MIDDLE ATLANTIC DIVISION

(To Consist of Delaware, District of Columbia, Maryland, Virginia)

### Public Service Association of Virginia

*President*, J. N. SHANAHAN, Newport News & Hampton Railway, Gas & Electric Co., Hampton, Va.; *Secretary*, H. C. BRADSHAW, Virginia-Western Power Co., Clifton Forge, Va.

## MIDDLE WEST DIVISION

(Iowa, Kansas, Missouri, Nebraska)

*President*, L. O. RIPLEY, Kansas Gas & Electric Co., Wichita, Kan.; *Secretary*, HORACE M. DAVIS, 361 Fraternity Building, Lincoln, Neb.

### Iowa Section

*President*, DON M. STERN, Northern Iowa Gas & Electric Co., Humboldt, Iowa; *Secretary-Treasurer*, H. E. WEEKS, Tri-City Railway & Light Co., Davenport, Iowa.

### Kansas Public Service Association

*President*, ROBERT TIMMONS, Kansas Gas & Electric Co., Wichita, Kan.; *Secretary*, H. LEE JONES, 820 Kansas Ave., Topeka, Kan.

### Missouri Association of Public Utilities

*Acting President*, C. L. PROCTOR, Empire District Electric Co., Joplin, Mo.; *Secretary-Treasurer*, F. D. BRADSHAW, 315 North 12th St., St. Louis, Mo.

### Nebraska Section

*President*, A. J. COLE, McGraw Company, Omaha, Neb.; *Secretary*, HORACE M. DAVIS, 361 Fraternity Bldg., Lincoln, Neb.

## NEW ENGLAND DIVISION

(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)

*President*, F. H. SMITH, Worcester Electric Light Co., Worcester, Mass.; *Secretary*, MISS O. A. BURSIEL, 149 Tremont Street, Boston, Mass.

(This Division Has No State Sections)

## NORTH CENTRAL DIVISION

(Minnesota, North Dakota, South Dakota)

### North Central Electric Association

*President*, G. O. HOUSE, Northern States Power Co., St. Paul, Minn.; *Secretary*, H. E. YOUNG, The Minneapolis General Electric Co., Minneapolis, Minn.

(This Division Has No State Sections)

## NORTHWEST DIVISION

(Alaska, Idaho, Montana, Oregon, Utah, Washington)

### Northwest Electric Light and Power Association

*President*, R. M. BOYKIN, Puget Sound Power & Light Co., Seattle, Wash.; *Secretary-Treasurer*, W. A. WHITE, Puget Sound Power & Light Co., Portland, Ore.

(This Division Has No State Sections)

## PACIFIC COAST DIVISION

(Arizona, California, Hawaii, Nevada, Philippine Islands)

### Pacific Coast Electrical Association

*President*, F. A. LEACH, JR., Pacific Gas & Electric Co., San Francisco, Cal.; *Secretary*, SAMUEL H. TAYLOR, 527 Rialto Bldg., San Francisco, Cal.

(This Division Has No State Sections)

## ROCKY MOUNTAIN DIVISION

(Colorado, New Mexico, Wyoming)

*President*, C. A. SEMRAD, Public Service Co. of Colorado, Denver, Colo.; *Secretary*, O. A. WELLER, 900 15th Street, Denver, Colo.

### The Colorado Public Service Association

*President*, W. P. SOUTHRAND, Trinidad Electric Transmission & Gas Co., Trinidad, Colo.; *Secretary*, O. A. WELLER, Public Service Co. of Colorado, Denver, Colo.

### New Mexico Electrical Association

*President*, JAMES H. MACMILLAN, Santa Fe Water & Light Co., Santa Fe, N. M.; *Secretary-Treasurer*, BERNARD L. WILES, Albuquerque Gas & Electric Co., Albuquerque, N. M.

### Wyoming Utilities Association

*President*, C. L. TITUS, Cheyenne, Wyo.; *Secretary*, RALPH E. BINGSTON, Cheyenne, Wyo.

## SOUTHEASTERN DIVISION

(Alabama, Cuba, Florida, Georgia, North Carolina, South Carolina, Tennessee, Porto Rico)

*President*, THOMAS W. MARTIN, Alabama Power Co., Birmingham, Ala.; *Secretary*, E. T. O'CONNELL, Alabama Power Co., Birmingham, Ala.

### Georgia Electrical Association

*President*, J. E. MELLETT, J. Clayton Co., Atlanta, Ga.; *Secretary*, W. W. BARR, 75 Marietta St., Atlanta, Ga.

## SOUTHWESTERN DIVISION

(Arkansas, Louisiana, Mississippi, Oklahoma, Texas)

*President*, J. F. OWENS, Oklahoma Gas & Electric Co., Oklahoma City, Okla.; *Secretary*, S. J. BALLINGER, San Antonio Public Service Co., San Antonio, Tex.

### Arkansas Utilities Association

*President*, J. L. LONGINO, Arkansas Light and Power Co., Pine Bluff, Ark.; *Secretary*, R. I. BROWN, Arkansas Central Power Co., Little Rock, Ark.

### Oklahoma Utilities Association

*President*, J. W. WALTON, Broken Arrow Telephone Co., Broken Arrow, Okla.; *Secretary*, EDWARD F. MCKAY, 307 Local Bldg., Oklahoma City, Okla.

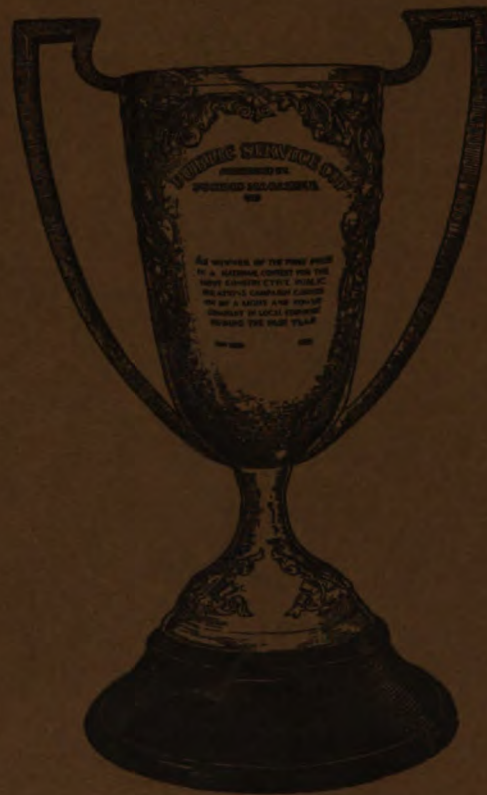
### Southwestern Public Service Association

*President*, G. W. FRY, West Texas Utilities Co., Abilene, Texas; *Secretary*, E. N. WILLIS, 403 Slaughter Bldg., Dallas, Texas.

\*Note: This Division is in process of formation.



Silver cup to be awarded by  
*Forbes Magazine*  
to an electric light and power company at



48th N.E.L.A. CONVENTION

San Francisco—June 15-19